EDUCATIONAL DEVELOPMENT ~~PLANNING~~ MAN POWER NEEDS AND SOCIO-ECONOMIC IN SAUDI ARABIA

by

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Thesis submitted for the Degree of Doctor of Philosophy
in Education, in the University of London,
Institute of Education

1972

ABSTRACT

Saudi Arabia, in its present stage of socio-economic development, is short of trained men, in administration, industry, steel, power and commerce. The demand for educated men of various levels is, therefore, very urgent, for not a single sector of a modern economy can work efficiently without people educated in modern methods.

The deficiencies in training and manpower are inevitable in a country like Saudi Arabia which has only belatedly come to the 20th century in terms of its contact with science and technology.

The transition is a difficult one for a country in which a modern education system was not a significant force until 1953 A.D. (1373 A.H.), namely after the establishment of the Ministry of Education. Moreover, the realization of the importance of linking education with manpower needs was not officially recognized until the late 1960s, namely after the publication of the two official reports by the Central Planning Organization; first An Economic Report in the Kingdom, in 1965, and secondly, Planning for Growth in the Kingdom, in 1967. The implementation of a planning approach was initiated very recently with the submission to the Council of Ministers, for the first time in Saudi Arabia's history, of a Five Year Development Plan, on 16/8/1970 A.D. (13/6/1390 A.H.)

If Saudi Arabia is to engage in industrialization, on a big scale, as it must, some means must be found to provide the new economy more quickly with the expertise which it urgently needs for it clearly demands much more in the way of skilled talent and intellect than the existing educational facilities are capable of producing.

In an attempt to answer the main questions raised by the current problem of acute shortage of Saudi skilled manpower in the light of the socio-economic development now taking place in Saudi society, this thesis examines briefly the importance of the role of Sheikh Muhammad Ibn Abd al-Wahhab's movement, on which the present Saudi Kingdom is based; analyses the causes which brought about the introduction of a modern education system into the country; seeks to shed light on the availability of natural resources and their exploitation within the Kingdom; discusses the existing labour force and skilled manpower from within and without; and makes a general survey quantitatively and qualitatively of the education system to identify those features which relate to the task of making the education system more relevant to the present needs of Saudi Arabia in developing skilled manpower for socio-economic development.

An outline of the initial stages of manpower study in the country is provided and the conclusion is offered of the need to combine the elements of manpower planning, educational planning and economic planning within the framework of entire socio-economic development initiated by the Saudi Arabian Government.

ACKNOWLEDGEMENTS

I am indebted to Professor L.J. Lewis who made numerous important suggestions and gave helpful guidance in the course of the preparation of this thesis.

I take this opportunity of expressing my deep gratitude to my colleagues in the Riyadh University, the Ministry of Education, Finance and National Economy, Labour and Social Affairs, who provided me with up-to-date material and necessary information.

Lastly, but by no means least, my grateful thanks are due to the Ministry of Education for the scholarships which made my studies possible, and for access to valuable source material not otherwise available in a field of development where published sources are still very limited.

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CHAPTER I

INTRODUCTION

Saudi Arabia is Islamic, in culture, and has been since the dawn of Islam. Before the turn of the present century, Arabia remained essentially a pastoral society, largely nomadic in character. Furthermore, by virtue of it being the homeland of Islam it excluded Western influences. Secluded as it was, and dormant under the Turkish and Arab chiefs, it retained its medieval and tribal characteristics and its Islamic based theocracy, in opposition to the secular nationalism, developing in other Arab countries.

Any consideration of the past, present and future development of education in Saudi Arabia must be pursued with reference to four factors. As Tibawi has remarked, 'The princely house of Saud in Najd had in the middle of the eighteenth century allied themselves with a fervent preacher of moral and spiritual regeneration named Muhammad Ibn Abd al-Wahhab. Educated in the Hanbali rite, the strictest of the four Sunni schools, the preacher sought to rid Islam of all innovations and to restore its original purity. The house of Saud undertook to support him even to the point of imposing his reforms by the force of arms."[1]

In the first place, the theocratic character of the State is of continuing importance. The King continues to exercise specific responsibility in respect

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1. A.L. Tibawi, A Modern History of Syria, Macmillan & Co., Gt. Britain, 1969, pp.41-42.

of decisions concerning religious matters referred to him by the theologians. Religious values and standards are paramount in respect of the social conduct of individuals and of the community as a whole. Administratively, responsibility for the control of the education of girls lay with the Grand Mufti, up to the date of his death in 1970. Since then, responsibility remains a matter of religious control outside the Ministry of Education.

Secondly, the fact that education in the modern sense was introduced only in 1937 and has been largely under the influence of non-Saudi professionals has meant that the process of developing a genuinely indigenous education system can only be described as of very recent origin.

Thirdly, the concept of planning the development of education with specific reference to the skilled manpower needs is of even more recent origin and involves within the Ministry of Education itself a set of new initiatives calling for knowledge and skills in short supply.

Fourthly, the adjustments to meet the new needs and changing aspirations of the nation involve the transition of political and administrative organization from a tribal to a national structure.

Arabia has always been independent, though subject for a period to Ottoman influence but not subject to the degree of foreign domination suffered by other Muslim countries. Nevertheless, despite this independence, political, economic and social progress including education, except in the Hejaz, which was influenced by the Ottoman and Hashemite regimes, was virtually negligible.

"The causes were, in part, due to tribal warfare, insecurity and feuds simmering among princes and heads of the various tribes who possessed a highly developed sense of tribal solidarity, accompanied by an intense individualism which promised ill for any attempts to weld the centrifugal elements of its population into a national whole."[1]

A study of the situation before the advent of Westernization and the introduction of a modern education system reveals that the changes which took place represent not so much the involving of a new pattern of social, economic and cultural life, but the introduction of another culture quite new to Saudi people, the growth of which has inevitably involved modifications at the expense of the old institutions.

The methods and ideas of the traditional society are not only still prevalent but are, perforce, involved in conflict with the intrusive culture whose influence has become more dominant in the contemporary Saudi socio-economic structure, particularly as a result of the influx of wealth from oil and the introduction of science and technology into the country.

In this study an attempt is made to examine the implications of the development of education on a planning basis, directed by a concern for the skilled manpower needs of Saudi Arabia with reference to the impact of these four factors, that is to say the influence of religious considerations, the limitations

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1. J.B. Philby, Arabia, Ernest Benn Ltd., London, Gt. Britain, 1930, p.180.

of the skilled manpower resources in education available, the relating of the education programme to the skilled manpower needs of Saudi Arabia as a nation seeking to adjust itself to the character of a modern technological world, and the political and administrative adjustments involved in moving from a tribal to a national unity.

Because of the clash of cultures and the accompanying socio-economic phenomena, it is impossible to fully understand contemporary Saudi Arabia without a proper knowledge of the foundation on which the society is based. It is, therefore, necessary to trace back the origins of the Kingdom which are to be found in the mid-eighteenth century when the religious reformer Sheikh Muhammed Ibn Abd al-Wahhab founded a stern puritanical movement.

"Religion provided the first promptings for the regeneration of society. Prior to the 19th century, all attempts at reform came from religious men. And during the 19th century, among the forces and currents working for renewal, the religious reformers were the most influential. This was natural enough. Religion, although it had lost much of its original purity and power, was still a strong force, perhaps the strongest in men's lives."[1]

Since the establishment of the Saudi Arabian Government, at the turn of the present century, Islamic culture within the society has continued essentially as a conservative influence in its impact upon the social, political and economic institutions of the society. In consequence, despite the pressures

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1. Nejla Izzeddin, The Arab World, Henry Regnery Co., U.S.A., 1953, p.63.

of other influences the capacity of the people to respond to the changing circumstances of Saudi Arabia in the context of the modern world has been inhibited. With the development of the oil industry and the consequential intrusion of the influences of modern technology, the structure of the society and the values based upon the Wahhabi concept of life have become subject to serious strains.

Therefore, the Saudis are confronted with a crisis of recurring conflict between the old heritage which has partially lost its effectiveness in their everyday lives and the new values and objectives which are permeating the society. This conflict has resulted in changing social, economic and political institutions including education. The unseen field in which the conflict is imperceptibly taking place is within the hearts and minds of the emerging Saudi generation. This attitude will continue so, till a clear-cut philosophy on which modern Saudi society can be based is defined in its proper perspective.

A number of factors have contributed to the current situation. In the first place, the dissemination of Islamic teaching among the Saudi masses and the observance of religious rituals have always been associated with authoritarianism rather than tolerance and understanding. This policy has produced an adverse effect upon a new Saudi generation whose attitudes towards religious rituals are apparently tinged with ambivalence.

Secondly, the sole emphasis on teaching one Orthodox Islamic school of thought of Hanbalism in schools and the application of related judicial procedures has narrowed the scope of Islamic teaching in the eyes of the people and particularly among the new generation. The religious texts which are based on Sheikh Muhammad Ibn Abd al-Wahhab's writings do not appeal to the younger generation and in respect of their relevance to the changing circumstances do not provide the necessary guidance to ensure the appropriate responses to the changing social conditions. In consequence, the theologians are not proving successful in equipping the young Saudi generation to meet the economic, political and social problems of the changing conditions within the context of Islam. 'The teaching of doctrine can never be enough in itself to inspire in the young a living faith. They must be also to see the relevance of the doctrine to the realities of the everyday life. The danger is always that they will grow up to be compartmentalized persons believing with one part of their minds a set of religious principles and knowing full well in another part that success in the world demands a quite different type of behaviour".[1]

Thirdly, the social and economic changes and the forces pressing for modernization of all sorts, as a result of the introduction of science and technology, have not been appreciated by the theologians in respect of the

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1. Sheila McDonough, "Pakistan and the Modern West", SH. Ghulam Ali & Sons, Lahore, 1960, p.156.

implications for social, economic, political and educational development. In consequence, the search for reconciliation between the modern needs and Islamic principles has not received the attention of the theologians that is necessary.

Despite this serious defect, it must be recognized that the Government inseeking to develop an education system relevant to the changing circumstances has recognized the importance of the role of values in the education process. The weakness in the situation has resulted in young people regarding religion as involving worship, prayers, praising and glorifying God; but that the Kuran is a book read in order to pass an examination and to invoke God's blessing, and that Islam is a theoretical invitation to pursue the noblest and most generous of moral precepts. The role of Islam in relation to economic and political changes and as a fundamental contributory force to the constitution, has not been established in the eyes of the new generation of Saudis. In consequence, despite the continuing emphasis upon the teaching of Islam in the schools, mosques and homes, young people are increasingly sceptical about the relevance of Islam, in the present policy, to the problems of modernizing society.

The new Saudi generation find themselves in a society totally different from that of their preceding generation. Mores, customs and laws based upon Islam which provided an acceptable foundation and guidelines to everyday life do not appear to be relevant to social and economic conditions which are the consequences of changes imposed by technological development. In educational

terms, the old methods and policy of teaching Islamic values and principles are hardly likely to have a profound impact upon them. For children will accept as suggestion what they reject as precept, they become habituated to surroundings of a certain kind and accept them as natural, whereas the attempt to impose ideas and behaviour provokes resistance.

If the theologians — who still wield powerful sway — could provide an answer to the question of reconciliation between the modern needs and Islamic principles, they might have made a discovery more valuable than all the existing oil deposits.

This is, in fact, the issue which has to be resolved if the political, social and economic future of Saudi Arabia is to be satisfactorily developed. It is an issue which must be kept in mind in any attempt to plan the modernization of Saudi society and which bears upon any attempt at relating educational development to future needs.

To appreciate this, it must be recognized that Wahhabism was an integral part of the culture and social pattern of the society and is a continuing force to be recognized and responded to, in the process of planning the general development of the country and of particular concern to the educational planners.

The significance of this is made clear in the current educational plan which makes specific reference to the place of religion in the educational process.

In the Five Year Education Development Plan defined by the Council of Ministers in Article (1) of its decision No.193 4/7/1389 A.H. (1969 A.D.) the preservation of the ethical values of Islam is a stated objective in the planning terms. "al-Hifaaz ala al-Qiyam al-Dincyyah wa al-Akhlaqeyyah".[1] The importance of this will be examined later. But to fully appreciate the importance of this concern it is necessary to examine the growth and role of Wahhabism itself.

The potency of Sheikh Muhammad Ibn Abd al-Wahhab's movement, from the historical point of view, must be regarded as the foundation upon which the contemporary Saudi Kingdom is based.

Detailed accounts of the Wahhabi movement are provided in a number of sources.[2] Here we content ourselves with outlining the general features of the movement and attempt to show some of the implications of it for social and educational aspects of contemporary Saudi society.

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1. al-Tijārah, al-Gurfah al-Tijarah al-Sinaeyah, Jeddah, Adad Tasie, Shawal, 1390, Sanah al-Hadiatashar, p.13.

2. A. Madhi, al-Nahdhah al-Hadithah fi Jazirat al-Arab, 2nd ed., Dar al-Ehya al-Kutub al-Arabiyah, Cairo, 1952.

   H. Wahba, Jazirat al-Arab fi al-Qarni al-Ishreen, Matba'at Lajnat al-Ta'leef wa al-Tarjamat wa al-Nasher, Cairo, 1935.

   J.B. Philby, op. cit.

CHAPTER II

WAHHABISM AND SAUDI SOCIETY

Wahhabism: its Definition and Principles

The term Wahhabism was given to the movement by the opponents of it after the name of its founder, Sheikh Muhammad Ibn Abd al-Wahhab. It was really a term of abuse, which was picked up and used by the European writers, travellers and diplomats. The Wahhabis themselves used the term "Muwahhidun" or monotheists. Currently, they have begun calling themselves "Salafiyun", followers of the virtuous ancestors, (the first three generations of Muslims).

They probably chose the epithet "Muwahhidun", in order to lay emphasis on the pure monotheism of Islam and to distinguish themselves from the followers of many superstitious beliefs and un-Islamic customs which had crept into the contemporary Muslim society.

The term "Wahhabism" is looked upon with askance in Saudi Arabia today. For this reason, the term "Salafiyah" will therefore be used.

The religious principles on which Sheikh Muhammad Ibn Abd al-Wahhabps movement were based did not bring anything new. They were, in their entirety, founded on the original principles of Islam.

The Salafiyuns are Sunni Muslims who interpret literally the verses of the Kuran and the Traditions of the Prophet which are attributed to God.

They leave them to omniscience as the first three generations of Muslims did.

In terms of Sharia, Islamic law, they are the followers of Ahmad Ibn Hanbal's doctrines in so far as they are found to be in accord with the Kuran and Sunna.[1]

The Salafiyuns are certainly not a separate sect. A 'sect' would presuppose the existence of a certain body of separate doctrines which would distinguish its followers from the great mass of all other followers of the same faith.

On the contrary, this movement has made an attempt to do away with all the accretions and superimposed practices which in the course of many centuries have grown up around the original teachings of Islam, and the return of the pristine message of the Prophet.

Ibn Taimiyah (1263-1328 A.D./661-728 A.H.)

Shiekh Muhammad Ibn Abd al-Wahhab was one of Ibn Taimiyah's followers. He drew his inspiration from the teachings of Ahmad Ibn Hanbal (780-855 A.D./164-241 A.H.), one of the most literal interpreters of Kuran and Hadith and the strictest of the four Sunni schools, as explained and interpreted by Ibn Taimiyah.

Ibn Taimiyah's methodology of teachings were based on the following factors:[2]

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1. A. Mahdi, op. cit., p.51.
2. M. Abu Zahrah, Ibn Taimiyah: hayātuhu wasāsruhu arāāuhu wa fikruhu, Dar al-fikri al-Arabi, Cairo, 1952, pp.213-218.

1. In Sharia, he accepted only the Kuran and the Prophet's traditions (Sunnah), and the traditions of Salal Saleh or the virtuous ancestors whereby he meant the first three generations of Muslims.

2. The theological truth could not be reached by reasoning (aql). He conceived that the Kuran and Sunnah had already referred to the analogical deduction to the truth. Therefore, he condemned the philosophers' methods of thinking, science of theology (Ilmu al-Kalam) and the Greek logic (Mantiq).

3. To him, the learned men have no authority in thoughts and ideas, unless they are based on the proofs from the Kuran and Sunnah, the Prophet's traditions and the traditions of Salaf Saleh.

4. He did not adhere strictly to any specific idea except in the affairs related to the Kuran and the Prpphet's traditions and the traditions of Salaf Saleh.

Sheikh Muhammad Ibn Abd al-Wahhab (1703-1787 A.D./ 1115-1201 A.H.

He was born in 1115 A.H. in al-Uyainah, north of Riyadh, the present capital of the Saudi Kingdom. He received his elementary schooling from his father. Later, he travelled to al-Hasa, the Hejaz and the Basra, seeking knowledge and learning. It was in this way that he became an authority on Hadith, the Prophet's traditions, on jurisdictions and on the Arabic language. He also became thoroughly conversant with anything

connected with theology. Furthermore, he acquainted himself with what was perpetrated in these countries which was considered contrary to the spirit of Islam.[1]

However, Sheikh Muhammad Ibn Abdul al-Wahhab's teachings were mainly derived from Ibn Taimiyah's books and his disciples, particularly in terms of theology and the pure monotheism of Islam. He mastered several of Ibn Taimiyah's books and copied by hand almost all his writings and rose on the scene of Arabia in the mid-eighteenth century to pursue the same line of thoughts and ideas.

In the first place, he was pained to see his Arab compatirates well-nigh relapse into the 'Days of Ignorance'. Secondly, about the time when Sheikh Muhammad Ibn Abdul al-Wahhab was a student in Medina, a number of influential teachers over there appear to have created a fresh enthusiasm among their disciples for reviving pristine Islam which turned the gaze of their students to the radical puritanism of Imam Ibn Taimiyah.

These factors must have added strength to Sheikh Muhammad Ibn Abdul al-Wahhab's feelings of dissatisfaction with the secularistic administration of the Ottoman Turks as well as the religious decadence of the Arabian Peninsula and moved him to embark upon a cause of radical religious reform.

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1. H. Wahba, op. cit., pp.335-336.

Sheikh Muhammad Ibn Abdul al-Wahhab's Teachings

The Salafiah teachings can be briefly summarized as follows:[1]

1. Individual interpretation from the Kuran and Traditions is open to one and all so long as a person, in virtue of his education and learning, can do so. A learned man is entitled to understand the Kuran and Tradition. Religion in their opinion is no monopoly of a certain class that claims to itself the sole right of interpreting the Kuran and the Prophet's practices.

2. Everything and every action is done by God, who is omnipotent. No human being, however exalted, can intercede with him for the sinner. One has to rely on what good one can do in this world, as the Holy Kuran verily said, "He who has done an atom's weight of good, he shall see it; he who has done an atom's weight of evil, he shall see it". It follows, therefore, that intercession has no value according to Salafiyah's teachings, and that the way of repentance, on the other hand, is open to all people without a medium or intermediary, for God is verily nearer to one than his life-vein.

3. Actions only matter in this world, i.e. one is not considered a true Muslim merely because one believes in God and his Prophet without performing the practices of Islam or believing in access to God by other means than goodly actions in this world.

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1. H. Wahba, "Wahhabism in Arabia: Past and Present", Journal of the Central Asian Society, Vol. XVI, London, 1929, pp.462-463.

4. Worship in its various forms should be given to God and God alone. In other words, no offering should be made except to him, with him alone should one intercede by means of right actions. Access to God should not be sought through tombs, nor should these be approved for fulfilment of worldly desires.

5. The worship of God must be on the lines indicated by his Prpphet. But dealings with people should be adjusted according to the requirements of the time, subject to the general spirit of Islam.

Three Phases of the Movement

The initial Salafiah movement was established in the late part of the 18th century and acquired hegemony over a large part of Eastern Arabia. Later the movement was opposed to Ottoman Empire, and bitterly campaigned against it. The Turks, naturally, became alarmed at the rapid events in Arabia. They, therefore, ordered Muhammad Ali, the Ottoman governor of Egypt, to nip the Salafiah movement in the bud. Acting on this order, Muhammad Ali succeeded temporarily in crushing the Saudi dynasty.

A second phase of diminution of the authority of Saudi dynasty was the outcome of the obstacles of the rival house of Ibn Rashid, who succeeded in driving the Saudis from Najd, their native land, before the end of the century. In consequence, the movement suffered two setbacks in its attempt to take control of Arabia and impose its austere interpretation of the faith.

The Third Phase: Kingdom of Saudi Arabia

The present Saudi Kingdom can be considered to be the third phase of the Salafiyah movement, which came with the turn of the present century, when a scion of the Saudi family, namely Abdul Aziz Ibn Abdul Rahman Al-Saud (1880-1953 A.D./1298-1373 A.H.) succeeded in re-kindling the fire of puritanism from its ashes.

Following a series of brilliant military expeditions, he captured Riyadh, the present capital of the Kingdom, from the Rashidis, and re-established the old dynasty there in 1902 A.D. (1320 A.H.)

By 1904 A.D. (1322 A.H.) Ibn Saud had become the undisputed master of the whole Najd, central Arabia. In 1912 A.D. (1331 A.H.) he captured Hail, and put an end to the Rashidi dynasty. Finally, taking advantage of the dissolution of the Turkish Empire, after the First World War, and the disturbed situation in the Middle East, on the one hand, and an Anglo-Saudi non-aggression pact,[1] on the other, he drove away Sharif Hussain from Hejaz, and occupied Mecca and Medina and Jeddah in 1925A.H. (1344 A.H.)[2]

Thus, he re-established the hegemony of the Saudi dynasty through

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1. J.B. Philby, op. cit., p.341.
2. Encyclopaedia of Islam, Vol.IV, edited by M. Th. Houtsma, A.J. Wensinck, H.A.R. Gibb, W. Heffening and E. Levi, Provencal, Leyden, Late E.J. Brill Ltd., 1934, p.1088.

Eastern, Central and Northern Arabia, and founded the presently thriving Kingdom of Saudi Arabia.

Salafiyah's Hierarchy

The hierarchy of influence of Salafiyah is divided between three sources of authority. First is the religious authority in the person of the Imam. The King in Saudi Arabia is not only King, but also religious leader (Imam) of his people.

The law of the land is Sharia, or divine law of Islam, in which supreme sovereignty resides, based on a literal interpretation of the Kuran and supplemented by administrative decrees of regulations.[1]

Secondly, there is the authority of the Sheikhs. Ulema, 'learned men', are known in Saudi Arabia as Sheikhs. They are those who have studied theology and acquired a sound knowledge of the theory and practice of Muslim law. Learning, as Arabia understands it, consists of interpretation of the Kuran, familiarity with the Prophet's traditions, Muslim law, the principles of theology, in the Arabic language and Islamic history.[2]

Thirdly, there is the authority of Al-Mutawas, who teach the practical side of religion and enforce a strict order of religious ritual which has to be scrupulously observed throughout the country. On this basis,

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1. The Royal Institute of International Affairs: "The Middle East"; Oxford University Press, p.88.
2. H. Wahba, Arabian Days, Ebenezer Baylis & Son Ltd., Gt. Britain, 1964, p.52.

the Organization of Religious Surveillance is established, "to encourage that which is good, and to shun that which is evil". It has numerous branches all over the regions throughout Saudi Arabia. Reports of such matters as drunkenness, neglect of prayers, the usual five times a day, or repeated failure to attend the Friday mosque were dealt with by reprimand or a caning when proved, and no good excuse furnished. This austere regimen is still to be found in rural communities.

The interpretation and control of the administration of Islamic law lies with the religious hierarchy, consisting of the second and the third groups, which are headed by the Grand Mufti. But both the Ulema and Mutawas often in their zeal pass beyond the bounds of reason, and the Imam has to interfere.

The Ulema are the power that holds the King and his people together -- the medium of control. But they seldom meddle in politics. Their chief and sole concern is apparently to see that the Five Pillars of Islam -- prayers, zakat (alms), Haj (pilgrimage), the fast of Ramadan and the testimony that there is no God but Allah and Muhammad is his apostle -- are maintained inviolate, strictly in accordance with the Kuran and Sunna, Prophet's Traditions. Besides, the Ulema of Nejd are extremely conservative, particularly in the matters of doctrine.[1] They would have this preserved

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1. A. al-Raihānī, Ibn Sa'oud of Arabia: his people and his land, Constable & Co. Ltd., Gt. Britain, 1928, pp.200-201.

unaltered and without explanation as it was originally expressed in the Kuran and the traditions, on the ground that what was good enough in the Golden Age of Islam is good enough for them. Consequently, the books they write are packed with arguments against those who want to modify the doctrine to suit the circumstances.

Unity and Peace

During the late Ibn Saud's regime, the law was applied ruthlessly. Criminals and delinquents were immediately brought before a court marshal composed of three Salafiyuns. The procedure was swift. The life of the desert does not allow for protracted punishments, tribunals and jails, "Blood calls for blood". Therefore, punishment was simple, rapid and severe. Murderers have their heads cut off. A thief caught in the act has his right hand cut off. If he robs again, the other hand follows. Drunkards caught in a state of intoxication receive eighty strokes of the rod. Those guilty of adultery are stoned.[1]

These strict measures might have looked harsh and inhuman in the eyes of Westerners, but to the Arabs they were completely effective and widely recognized as basic to the maintenance of good conduct in contrast to the chronic and chaotic conditions which Arabia had suffered for several centuries.

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1. J. Benoist Mechin, Arabian Destiny, Translated from the French by Denis Weaver, Gt. Britain, Elek Books Ltd., 1957, p.191.

Eventually, Ibn Saud established a condition of public security in his vast domains, unequalled in Arab lands since the time of the Caliphate a thousand years previously. He accomplished this by means of harsh law and punitive measures which were conceived necessary during the early years of his rule. Furthermore, a sense of exclusiveness had been pervasive over Arabia during the time of his rule, especially in the interior, Nejd.

Because of this exclusiveness, no foreigners, particularly Europeans, were welcome in Nejd, Central Arabia, until the last years of the life of Ibn Saud except in the guise of Arab dress.

Due to this rigid attitude, the country had not been widely opened to European influence. Consequently, during this period Saudi Arabia was deprived of the opportunity of acquiring skills, techniques and technical know-how from the advanced countries of the West, save the technological development required for the production of oil in the Eastern region. Despite this conservatism, the regime of twenty five years of Ibn Saud must be recognized as the initial stage of the introduction of Westernization and the beginning of the conflict between traditionalism and modernism within Saudi society.

During his reign, oil was discovered, and later became the foundation on which the modern economic and social development of Saudi Arabia

was founded. For the first time in the history of the Arabian Peninsula, telephone, wireless and radio communications were introduced, and the automobile took the place of the camel as the major means of transport.

Most of the achievements were due to his courageous initiative amidst the opposition and intransigence of traditional theologians.

While the Salafiyah movement ensured high standards of moral and social behaviour, it inhibited the rapid adoption of Western forms of education and the economic and technological development of which it is the foundation.

The Impact of Salafiyah on Saudi Society

The followers of the Sheikh have been able to stamp out many irreligious practice and superstitions throughout the country, such as seeking intercession from certain places or tombs of saints or learned men. Many places which were regarded sacred by the ignorant masses have almost been demolished. The people as a whole have been forced to observe strictly the major religious practices of prayer, five times in the day, fasting Ramadan, the avoidance of such offences as drinking, smoking and other practices contrary to the religious teachings.

D. Van Der Muelen, in his book The Wells of Ibn Saud, described the situation in Saudi Arabia more than thirty years ago,[1] "Smoking

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1. Daniel Van Der Muelen, The Wells of Ibn Saud, John Murray, Gt. Britain, 1957, p.110.

music making, the consumption of alcohol and the wearing of gold and jewellery and silk garments were strictly forbidden, and the performance of the five daily ritual prayers in the mosque was made obligatory. When the call to prayer (azan) sounded, police patrols with long canes would stride through the streets shouting salat, salat, to prayer, to prayer, and beat upon the closed shutters and doors of the shops in the markets to frighten any who might be hiding there. Those who did not walk in the direction of the mosque were helped on their way. Five times a day, the town was like a town of the dead. No sound was to be heard other than the shouts of the patrols followed by the murmur of prayers punctuated with the massive "amin" of the gathered crowds. Often, on leaving the mosques, the names of the faithful were checked. Thus, much of the day-time was taken up with the outward performance of religious duties, enforced and police-controlled".

Because of the surroundings which still bear the characteristics of harshness and force, the contemporary Saudis normally observe the religious performance in their daily lives as a routine duty.

Salafiyah and Education

The Salafiyah Ulema have notably been acknowledged to be zealous and enthusiastic to disseminate Sheikh Muhammad Ibn Abd al-Wahhab's teachings among the masses. In 1910, Ibn Saud initiated the

religious reform campaign, sponsored by the Ulema, to introduce religious education among the Bedouins who formed a large bulk of Nejd population, and simultaneously to persuade them to settle on the land as cultivators. As a result, the Ulema had been scattered among the Bedouins, to carry out this sacred task, preaching and teaching as a part of their religious duty. They did, in fact, succeed in purging un-Islamic practices, rampant among the Bedouins, and led them to the real path of Islamic teachings.[1]

In 1912 A.D. (1330 A.H.) they were able to form a centre for the Bedouin settlement called "Hejrah".[2] It was the first attempt of this kind to solve the Bedouin problems and was initiated by Ibn Saud through the process of religious education. Eventually the Hejar settlements increased

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1. A. Madhi, pp. cit., pp.118-120.

2. The "Hejar" are villages built by Bedouins around sources of water in which they settle. The word means more than leaving the desert, changing from the nomadic and pastoral life to the life of agriculture and settlement. The Bedouins are being transferred from one area to another, from one stage in their history to another. It is a change from the society of the tribe to the society of the nation. The number of these villages is seventy two, according to Amin al-Raihāny in his book, Najd and its Dependences. We do not possess a census of the inhabitants, but according to al-Raihāny, they provided 76,500 recruits for war. If the proportion of the fighting men is one to ten, this would mean that the total number of those living in the villages was 750,000 - by any measure a remarkable achievement.

in number over a great part of the rural areas and became centres not only for religious education along traditional lines but also for agriculture and military training. The settlers called themselves Ikhwan (brothers), because through brotherly affection, bound by religious belief, they had been able to settle and work collectively.

When the occupation of Hejaz was completed and the unity of the Saudi Kingdom realised in 1925 A.D. (1344 A.H.), the Salafiyah Ulema had to embark upon a new task of educating the people of Hejaz, in consistence with the principles of Salafiyah's teachings. In the same year (1925 A.D./1344 A.H.), the Majlis Ahli (National Council) was formed in Hejaz, presided over by Said Muhammad al-Marzoki Abu Hussain. One of the tasks, namely item No.5, devolved upon the Council, in the light of the Royal Instructions, was to expand religious education and literacy in the Holy City.[1] It was, in fact, the first step to introducing a new educational policy in line with Salafiyah's teachings.

Because Hejaz was more sophisticated than Central Arabia and, it had experienced some sort of modern system of administration during the Ottoman and Hashemite regimes, the educational policy had to be organized in a systematic manner. Therefore, the Directorate of Education was founded in 1926 A.D. (1345 A.H.) to run the new educational policy.

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1. F. Hamzah, al-Bilād al-Arabiyah al-Saudiyāh, Matbaāt Ummul Qura, Mekkah, 1355 A.H. (1936 A.D.), p.98.

And subsequently, the new laws were laid down for the administration of Hejaz.

It was stated in the sixth item of the basic instructions issued at the same date of the establishment of the Directorate of Education as follows:[2]

"The law has to be in accord with the Kuran and Sunnah, and the traditions of Salaf Saleh, the first three generations of Muslims."

In the light of the new government policy, the Directorate of Education introduced a new curriculum into the schools, in compliance with the law and policy of the government. Consequently, the teaching of theology had to be based on Salafiyah's books. The treatment of the Sharia, Islamic law, was to be in accord with the Hanbalite School of Law. The teaching of the science of theology (Ilmu al-Kalam), logic (Mantiq), and philosophy were strictly prohibited to be taught in schools and the mosques.

This trend of educational policy has been the mainstay of the educational structure of Saudi Arabia up to the present day. The only remarkable change to take place has been diminishing extremism in the contemporary Saudi society, which has already accepted a modern education system side by side with the old one.

The acceptance of a modern education system to be run parallel

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1. F. Hamzah, op. cit., p.79.

with the traditional system as interpreted by the theologians did not necessarily mean any diminution in va lues and patterns founded in the theology of the Salafiyah movement. The religious authorities have exclusive control over religious institutions. They teach for five years, after the primary school, Islamic and Arabic subjects, and serve as the recruiting ground for the faculties of Islamic law and Arabic language.

The effort to preserve tradition in the new education system may be seen not only in the recognition of trends but also in placing strictly religious education under the administration of theologians and not under the Ministry of Education. The traditional system with its spirit, methods and even curriculum survives in the modern Saudi system as nowhere else in the Arab world.

Since the establishment of the Ministry of Education in 1953, recruitment into the upper echelons of the Ministry has taken place from personnel who have graduated from the University of Cairo and have later pursued advanced studies in the U.S.A. and Western Europe. However, many of them have not returned to the Ministry, but have been appointed to posts in the University of Riyadh, the Abdulaziz University and in Ministries and other government organizations. Their places in the Ministry have been taken by persons whose educational outlook is still dominated by the traditional religious concepts and values and who find it difficult to fully appreciate and

take cognizance of modern trends in the educational process and general development. Many of the latter are the products of the College of Sharia and the College of Arabic language in Riyadh, as well as earlier graduates of the college of Sharia, Mecca; all institutions controlled by the Salafi theologians and therefore providing a counterbalance to the secular trend posed by the modern education system. Furthermore, it is from these sources many of the decisions of the regional directorates are received.

Despite this inhibiting force of traditional thinking founded in the theology of Salafiyah, the influence of modern thought is making its presence felt. Three recent appointments of Deputy Ministers of Education and the Director-General of Public Relations and Missions Abroad, two members of the royal family who have graduated from universities in the U.S.A., and the third, a doctorate graduate, are indicative of wider knowledge and experience being introduced into the education system. Furthermore, the influence of their counterparts in other ministries, and the exposition of new ideas through personal contacts, lectures, contributions to the press, radio, television, and public lectures represent a gathering momentum of influence over public opinion. The academic status of these persons reflecting their status by Western academic standards is highly appreciated by the authorities and valued generally by the intellectual elements of Saudi society.

One consequence of this development is the readiness of the

Government to use the new knowledge and intellectual resources of these people to answer the assertions of authority by the theologians, in their religious terms, in matters relating to social aspects and the structure and development of education. The mitigating of excessive influence of the traditional theological authority by recognition of the need for change in relation to the process of modernization was demonstrated in 1960, when His Majesty the King intervened to further the formal education of girls by promulgating the necessary instrument, despite the views of the traditional theologians.

The strength of the theologians' impact upon the society, together with that of present monolithic regime which embodies conservatism, has increasingly been challenged by growing radicalism prevailing in the neighbouring Arab states. This persistent challenge, coupled with the increasing links of Saudi Arabia with the outside world, has probably contributed to the Government seeking to lessen the theologians' influences and to restrain their opposition against modernization and innovation. The tangible impact of this skilful policy is abundantly clear in the achievements made in the fields of social, economic and educational development. This trend of policy is largely dependent upon King Faisal's shrewdness in steering the strength of the conservative elements towards an understanding of the grass root needs of the country, resulting in attitudes of moderation and leading to a gradual

reconciliation with the new modernizing forces of the growing number of Saudi intelligentsia who are the products of a modern education system since the late 1940s. However, the success of this policy is probably dependent upon the continuing equilibrium of this critical tie and subtle affinity between the two diametrically opposed sections of the Saudi community.

Paradoxically, whatever the pressures impinging upon the society, the long-standing links between the State and the Salafi theologians are not likely to be weakened, so long as the present traditional dynastic foundation remains intact. Their deep-rooted alliance which goes back to the mid-eighteenth century will continue to be of major influence over the political, social, economic and educational institutions whose efficient operation is essential to the evolution of Saudi Arabia into a modern society exercising its proper influence in the world.

CHAPTER III

MODERN EDUCATION SYSTEM IN SAUDI ARABIA

In this Chapter, attention is paid to issues relating to the introduction of a modern education system, and to the problems arising from the continuance of traditional educational practices, alongisde the modern system.

The importance of harmonising the old and new modes of thought in a Muslim society seeking to come to terms with modern technology is examined.

Education System Before the Establishment of the Saudi Arabian Kingdom

Muslim education was associated with the mosque from the early days of Islam. The Kuran and Traditions were the first and foremost subjects of learning, for in them the Muslims found what concerned them in the way of belief and conduct. Since then, the mosque became not only the place of worship and devotion, but it was also an educational centre.

Apart from the mosque, there existed small junior schools called Katatib, which provided means of acquiring literacy, elementary proficiency in the Kuran and Traditions with a sprinkling of arithmetic, poetry and history.

Arabia has retained this traditional form of Muslim education in the rural areas up to the present time.

The two Holy Cities, namely Mecca and Medina in the Hejaz, were the major centres of educational activity, maintained by residents and visiting learned men from other Muslim countries. The pilgrimage season has been a precious occasion for the assembly and gathering of Muslims every year. Scholars, before or after making the pilgrimage, frequently spent some months or years in either of these two Holy Cities, engaged in learning or teaching.

The beginning of the nineteenth century witnessed the development of traditional education through the efforts of individuals and a few Islamic missions mainly from India and Indonesia to establish institutions in Mecca and Medina.

In 1908, H. Zainal Ridha founded a regular Arabic school in Jeddah and another in Mecca, known till the present time under the name of "al-Falah School".

These two schools, together with the private schools sponsored by Muslim settlers, carried the message of traditional education which consisted of the following subjects: Theology (Ilmu al-Kalam, Ilmu al-Tawhid), Interpretation of Kuran (al-Tafseer), the Traditions (al-Hadeeth), Jurisprudence (al-Fekh), and its principles (Usul al-Fekh), the Science of the Traditions (Mustalah al-Hadeeth), Grammar and Syntax of the Arabic language, Prosody and Rhetoric. Some of them added to their curriculum such modern subjects

as history, geography and mathematics.

When the Ottoman authorities, in the tottering stage of their reign, decided to establish the government schools in the scattered principalities over the Arab world, Hejaz was very fortunate to be included in that educational scheme, though it came into force very late in time compared with the rest of the Arab countries.

However, the educational situation did not change much, in part possibly because of inefficiency on the part of the authorities in the two Holy Cities, in part because Arabia as a whole was simmering with tribal warfare and instability. In part, also, mismanagement of the Ottoman administration itself contributed to ineffectiveness in pursuing the provision of educational facilities.

"In 1916, the Hashemite Sharifs in the Hejaz revolted against the Turkish rule. Among many other reform projects, they established a few schools such as 'al-Raqiah, al-Ziraah and al-Harb', and teachers from Iraq and Syria were recruited to staff these schools. However, the subjects taught in these institutions did not differ from those taught to the students in the lower schools, attached to Al-Azhar University in Cairo."[1]

The Hejaz, compared with other provinces in Arabia, had enjoyed a promising start of educational development introduced by the Hashemite regime and their predecessors, namely the Turks.

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1. A.R. al-Sabbakh, Tarbiat al-Nash' fi al-Manzil wa al-Mujtama, Vol.I, Dar Mampas Littibāāt, al-Qahirah, Cairo, 1962, pp.151-152.

The al-Hasa province, in the Eastern region, was not in such a satisfactory position. The Central Arabian "Nejd", which had become a field of tribal dispute, was deprived of education and stability, and it remained so until the days of the reformer Sheikh Muhammad Ibn Abd al-Wahhab. Since then, the traditional religious education in the mosques and private houses has been a characteristic feature of the country, (see Wahhabism and Education, Chapter II, p.32.)

This traditional form of education continued as the only form of education in Arabia until the establishment of the Saudi Arabian Kingdom in 1926.

Saudi Kingdom and the Introduction of a Modern Education System

Since the unification of a large part of Arabia in 1926, and subsequently the establishment of the Saudi Arabian Kingdom, the Saudi Government has been confronted with a shortage of qualified Saudi nationals to run the state apparatus in administration, social works, health and education.

To quote Philby's description of the situation in the early days of the establishment of the Saudi Kingdom: "These administrative arrangements, while working satisfactorily enough under present conditions, cannot yet be regarded as having settled down in their final shape, and the smallness of the Executive Council is but evidence of the paucity of the experienced

officials at the disposal of the Wahhabi monarch. This is indeed a crying need of the country and a great burden of work and responsibility inevitably devolved on the King himself, until the process of education at home and recruitment outside the borders of Arabia shall have provided him with an efficient staff."[1]

As a result, the first Directorate of Education was founded in 1926 to supervise the education policy, (see Wahhabism and Education, Chapter II, p.32.)

In 1928 A.D. (1347 A.H.), the Government decided to send 14 students to the Al-Azhar colleges in Cairo for studies. They were the first batch of Saudi students sent abroad with Government scholarships for education. In 1936 A.D. (1355 A.H.), a second group followed.

As the State became more organized, it required administrators and professional men in medicine, pharmacy, engineering, agriculture, science and education, and such administrators needed advanced forms of education which the traditional system was not able to provide.

Thus, the first modern secondary school was established in 1937 A.D. (1356 A.H.), namely "Madrasah al-Tahdheer al-Be'thaat", The Preparatory School for Missions, in the Holy City of Mecca.[2] The establishment of this

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1. J.B. Philby, op. cit., p.330.

2. al-Taqreer un al-Ta'leem al-Thanawi fi al-Saudiah: tatawuruhu was taqaddumuhu min 1927 ila 1964, Wazarat al-Ma'arif, p.2. (The report on secondary education: Its development and progress from 1927 to 1964, Ministry of Education).

school was in response to the Government's extreme need of skilled Saudi manpower.

The main objective of the school was to equip students with modern education to enable them to pursue further university studies in Cairo and Beirut, and to serve the Government after graduation. For the first time, the new subjects, namely mathematics, science, physics, biology, algebra, geometry and geography, were introduced side by side with the traditional subjects of religion and the Arabic language, and for the first time they were given a significant place in the curriculum.

Because there were no highly qualified Saudi nationals to man the school and teach the new subjects, it was thus largely staffed by Egyptian teachers. Furthermore, the Directorate of Education had, in turn, authorized the Egyptian Ministry of Education in Cairo to provide question papers for a Secondary Certificate Examination, so that Saudi students would have no difficulty in seeking admission to Cairo University.

The balance of attention to the various parts of the curriculum are clearly indicated by the amount of time allocated to each item in the table of the distribution of lessons for the first secondary modern school.

Table 1

Subjects	Number of Lessons (per week) 1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year Science	6th Year Arts
Religious Subjects							
Kuran Interpretation	1	1	1	1	1	-	-
Traditions	1	1	1	1	1	-	-
Theology	3	3	2	1	1	-	-
Islamic Law	3	2	2	1	1	-	-
Arabic Language						6	6
Grammar	3	3	3	1	1		
Composition	1	1	1	1	1		
Arabic Literature	2	2	1	1	1		
Rhetoric	-	-	-	1	1		
Reading	1	1	1	1	1		
English Language	11	10	11	9	8	8	9
French	-	-	-	2	2	3	6
History	2	2	2	2	1	-	5
Geography	2	2	2	2	1	-	5
Education & Psychology	-	-	-	-	-	-	5
Science	1	1	2	3	2	4	-
Physics	-	-	-	2	2	6	-
Biology	-	-	-	-	3	5	-
Pure Maths	-	-	-	-	-	4	-
Algebra	-	1	2	3	6	-	-
Geometry	-	1	2	3	-	-	-
Arithmetic	4	4	2	-	-	-	-
Drawing	1	1	1	1	1	-	-
Total	36	36	36	36	36	36	36

Since the establishment of this modern secondary school in 1937 A.D. (1356 A.H.), it has emerged as an institution commanding recognition throughout Saudi Arabia. The students came from all parts of the Kingdom for enrolment. Thus, the school was destined to play an important role in the provision of secondary modern education, and in providing a supply of Saudi nationals for university training abroad.

As a result, the government scholarship scheme to send students abroad for higher studies was systematically developed. The first batch of this school's graduates was sent to Egypt in 1942. A large number of old graduates of this school have already made notable contributions to the public services; among them several ministers and many leading figures in government, education, medicine and other fields.[1]

However, until the late 1940s, secondary modern education was confined to the Holy City of Mecca.

In the meantime, the traditional economic structure of Saudi Arabia, due to the oil royalties, particularly after the Second World War, had been undergoing a process of accelerated change. For instance, oil royalties increased from $10.4 million in 1946 to $35.3 million in 1948,

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1. Among former pupils of this school are the following Members of the Government, in 1971:-
   1. Minister of Petroleum and Mineral Resources, Mr. A.Z. Yamani
   2. Minister of Agriculture and Water Resources, Mr. H. al-Mashari
   3. Minister of Information, Mr. I. al-Angari
   4. Minister of Foreign Affairs, Mr. O. al-Saqqaf
   5. Deputy Minister of Education, Mr. A.W.A. Wassie
   6. Deputy Minister of Health, Mr. H.A. Ghaffar

and to £139.8 million in 1949.[1]

The rapid growth in national income was not matched by similar growth of the administrative bodies and civil servants. The only ministries in existence around 1948 were the ministries of finance and defence. Other administrative bodies were of departmental status such as the education department, the oil and mining department, the health department and the department of public works.

Furthermore, the increasing national income facilitated the government's embarking upon programmes of development in industry, agriculture, the social services, water resources, roads and communications. As a result, the economic situation was gradually improved. But in almost all cases, one of the chief bottlenecks proved to be the scarcity of Saudi technical manpower.

Economic development, as far as it related to industries, public services, communications, and to the appearance of modern industrial products in the country, has simultaneously required trained workers and qualified technical personnel. However, such technical staff was not available in the country, and has had to be recruited from abroad.

The first attempt to train Saudis for industrial work to meet the requirements of the pressing needs of skilled manpower, was the establishment

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1. The Impact of Petroleum on the Economy of Saudi Arabia, Ministry of Petroleum and Mineral Resources, 1963, p.11.

of the first Industrial School in Jeddah, in 1947 A.D. (1367 A.H.) However, this school did not appeal to the younger generation who first had to overcome aversion towards manual and technical work. In addition, the rate of illiteracy was very high, and, above all, few young people had even finished primary school.[1]

Since then, the demands of economic development on education, and the needs of an ever-increasing volume of trained Saudi manpower, have grown rapidly. This was coupled with the need for the development of a modern army requiring modern types of technical support personnel. As a result of these diverse requirements of skilled personnel, the development of modern education system has become a basic feature of the educational policy. The importance of education was reflected in 1953 A.D. (1373 A.H.) in the Directorate of Education being upgraded to the status of Ministry of Education.

The establishment of the Ministry brought with it great reforms in modernizing the education, and resulted in noticeable changes in the content of the curriculum and the methods of teaching. It also resulted in the spread of modern educational opportunity more fairly throughout the Kingdom. These developments were pursued with a view to bringing the education system in line with the systems operative in other Arab

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1. In the year 1947 A.D. (1367 A.H.), there were 71 primary schools only in the whole country.

countries.[1]

The objective of the introduction of a modern education system into the Kingdom was, undoubtedly, motivated by the pressing need of skilled manpower, and the desire to accelerate economic and social development, alongside the rest of the Arab states, which had been influenced by the Western pattern of education.

This new system represented the first attempt to provide education in line with the needs of economic and social changes taking place in Saudi society in the first half of the present century.

Saudi Arabis was in a hurry to develop cadres of Saudi personnel. There was, thus, not much time for original thinking. The process was mostly one of adoption of educational practices developed in other countries with some adaptation. Furthermore, the changes met with opposition from some people wedded to a traditional view of education and the needs of society. One result of this opposition has been lukewarm support in some quarters for the development of education and difficulties in integrating new ideas and methods of education with the traditional outlook of the people, which reflects the religion, history, language, literature, art and

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1. 1. Curriculum reform in the primary school.
   2. The division of secondary levels into lower and upper stages, in 1958.
   3. Introduction of technical and vocational education in 1958/9.
   4. Introduction of higher education by establishing Riyadh University in 1957.
   5. Educational expansion at various levels, (see Chapter VI).

the general traditional culture of Saudi society. The result has been the creation of something in the nature of a dualism in the social and intellectual structure of contemporary society. Inevitably, if some people think and talk in modern terms, and others think and talk in traditional terms, a lack of harmony and a lack of cultural unity is inevitable. This is what has happened, and is in itself a great social, political, educational and cultural problem.

Since the inception in 1937 A.D. (1936 A.H.) of a modern educational system, it has been conducted alongside or parallel to the traditional religious education. The latter, as the oldest institution in the Kingdom, was not affected by the introduction of the new system. The theory and practice of the old has tended to project itself on the new and to mark it with its own stamp and characteristics. For instance, there continues to be a great emphasis on religious and Arabic studies at the various educational levels which are still conducted in the old manner.[1] It must be kept in mind that in Saudi Arabia, unlike other Arab countries, it was not intended to

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1. The curriculum allocates 46.7 per cent of first grade primary school time for religious instruction, 16.6 per cent for Arabic language and 36.7 per cent for all other subjects. As children progress through the school system, less time is devoted to religious instruction, and more time is spent on learning Arabic language and all other subjects. The relevant percentages for the six grade primary are 26.5 per cent, 29.3 per cent and 44.2 per cent respectively.

reduce the traditional education system to a state of inferiority in relation to the modern system. Nor was it intended to isolate the content of the traditional subject matter and give it a subordinate place in a new curriculum. Rather, it was specifically intended to cast the new system in an Islamic mould. One consequence of this is that the modes of study and thought still relate essentially to the past interests of the society instead of being modified to relate to the current and future social situations. In reflecting on this problem, it must be recognized that since the dawn of Islam, Saudi Arabia has been and still is a country whose culture roots and continuing loyalties are in Islam. The problem of the development of a modern educational system relevant to modern needs cannot be understood except in this context.

Primary School

In spite of an early introduction of a modern education system in the secondary school, the primary school has remained aloof from this new development. Neither curriculum nor educational structure at primary level had any bearing on post primary schooling before the mid-1950s.

The primary school retained a close interrelation with the traditional secondary religious school whose aim was to turn out theologians, religious teachers and judges who would perpetuate a traditional outlook and Islamic culture.

Therefore the students in the primary level, before the mid-1950s, were not acquainted with even an elementary background knowledge of

science, hygiene, drawing and craftwork, whose inclusion in primary curriculum is essential in terms of providing the foundations of an education for modern needs.

In 1942 A.D. (1361 A.H.) the Royal Decree No.3702, defining the curriculum for the primary school was issued.

The following table shows the subject distribution of primary school curriculum before changes were made to bring the curriculum in line with modern education practices elsewhere.

Table 2 Time-Table of Primary Schools in 1942 (no.of lessons per week)

Subjects	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Kuran & Spelling	18	-	-	-	-	-
Kuran	-	15	12	6	3	3
Chanting the Kuran	-	-	-	1	1	-
Theology	2	2	4	4	4	3
Islamic Law	2	2	3	4	3	3
Traditions	-	-	-	-	2	2
Grammar	-	-	-	3	5	5
Reading	-	3	3	2	1	2
Composition	-	-	-	2	2	2
Recitation	-	-	-	1	1	1
Dictation	-	6	3	3	2	2
Style	4	3	3	2	2	2
Arithmetic	2	3	4	4	4	4
Geometry	-	-	-	-	-	1
History	-	-	2	2	2	2
Geography	-	-	-	-	2	2
Total:	28	34	34	34	34	34

This pattern of primary education was heavily biased in content to the traditional form, and the content did not change until the new proposals were put forward by the Egyptian advisor to the Ministry of Education, Muhammad Abdul Hadi, in 1956.

He stated in his 1956 report to the Minister of Education that,[1] "The present primary school curriculum is based on the importance of subjects viewed by the adult, whereas the emphasis should be stressed on the child's ability and aptitude. Proper considerations must be given to the children /as children/ rather than adults. The existing curriculum is devoid of subjects required by the child's natural growth and his needs of movement, expression and play. It does not train the child to be creative and able to solve problems by himself". He explained at length the child's psychology, his natural motives and instincts, and he suggested accordingly that physical education, science, drawing, craftwork and learning by observation, must be included in the primary curriculum. He suggested too that the religious subjects ought to be taught in their entirety, rather than as separate subjects, because the child cannot differentiate the characteristics of each subject in the way adults might be expected to do. He also stressed the need to integrate the Arabic language studies.

He proposed a number of changes in the primary curriculum which were as follows:

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1. M.A. Hadi, Taqreer wa al-Muqtarahhat un al-Nizam al-Ta'leem fi al-Sa'odiah, 1956, pp.3-5. (Reports and Suggestions of the Education System in Saudi Arabia. Publications of the Supreme Council of Planning.

Table 3

Subjects	Number of lessons per week					
	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Kuran & Religion	6	6	8	8	8	8
Arabic Language, Style & Recitation	12	12	12	12	10	10
Arithmetic	6	6	6	5	4	4
Practical Geometry	-	-	-	-	1	1
Observations (Fundamentals in Science)	2	2	2	2	2	2
Hygiene	-	-	-	-	1	1
Geography	-	-	-	1	1	1
History	-	-	-	-	2	2
Arts & Crafts	4	4	4	4	3	3
Physical Education	4	4	2	2	2	2
	34	34	34	34	34	34

As a result of Muhammad Abdul Hadi's 1956 report, the curriculum in the primary school started taking a new form. The modifications approved by the Saudi authorities were as follows:

1) An introduction of physical education

2) Principles of science and hygiene

3) Arts and craftwork

The revision of the curriculum was carried out in 1957 and came into force in 1958. In 1968/69 a further revision of the primary school curriculum was initiated. The main features of this latest revision are outlined in the following table.

Table 4 Time-Table of Primary Schools

Subjects	Number of lessons per week					
	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Religious Instruction						
Kuran	8	8	8	7	3	4
Chanting of Kuran	-	-	-	1	1	-
Theology	2	2	2	2	2	2
Islamic Law	2	2	2	2	2	2
Prophet's Sayings	-	-	-	-	1	1
Arabic Language						
Spelling & Writing	7	7	-	-	-	-
Reading	-	-	3	2	2	2
Recitation	2	2	2	2	1	1
Dictation	-	-	3	2	2	2
Writing (Style)	-	-	1	1	1	1
Expression (Com.)	-	-	2	2	1	1
Grammar	-	-	-	1	2	2
Geography	-	-	-	1	1½	1½
History	-	-	-	1	1½	1½
Arithmetic	4	4	6	5	6	5
Geometry	-	-	-	-	1	1
Science & Hygiene	2	2	2	2	3	4
Drawing & Craftwork	3	3	2	2	2	2
P.E.	2	2	2	2	2	2
Total:	32	32	35	35	35	35

It was regarded as the utmost importance that science should be included in the curriculum of the school at the earliest stage. This is in line

with current thinking in other countries. It was maintained that only through full understanding of science and its role in modern life, and through sincere belief in its modes and philosophy as a way of thinking and solving problems, could any slowly developing nation acquire the technological skills and adaptability necessary to set it on the road of proper development.

Saudi Arabia, as a developing country, needs a continuous supply of scientists and technicians. Their training must take the shortest possible time, and yet reach the highest attainable standards. Hence, the elementary school has to be relied on to teach the basic concepts and attitudes on which the later educational structure is to be built. Furthermore, by starting at childhood, the acquisition of those concepts and attitudes are likely to have a more lasting value, and should favour the learning process at other levels. "Growth during the first four or five years of school life involves the mastery of certain basic skills that, to put it figuratively, are themselves the tools for achieving higher order skills. These involve at the outset the training of perception to more analytic demands, - for example, the capacity to see things not only globally and diffusely, but also in terms of their component angles, shapes, colours and the like. During this period there is also the beginning of the capacity not only to use language for labelling the things that one sees around one, but also to use it for representing things not present and for being able to transform them in

one's mind by the power of language as a mode of thinking. The early years also witness the first training in knowing how to pose problems, to organize an attack on a problem, and to learn the techniques of delay and sequence that make possible the formulation of increasingly complex plans. Finally, these are the years in which there are developed attitudes of co-operativeness with respect to how knowledge is shared and how labour is divided. None of these matters -- more analytic perception, the use of language as an aid to thought, the development of competence in planning, or co-operative attitudes -- comes entirely naturally to man."[1]

In a developing society aspiring to become more technical, where the culture is not yet adjusted to elaborated Western technology, it becomes necessary to introduce new ways of aiding the growing child that go well beyond the practices of the conventional European schools. This is particularly true in respect of those modes of thought most directly related to the establishing and maintaining of technology -- namely, science and mathematics, both broadly conceived.

Through the teaching of the causes of natural phenomena, and the methods of discovery, confidence in objective knowledge will eventually be substituted for the fear arising from the ignorance that leads to superstitions, prejudices and probably a belief in magic.

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1. The Learning Process and the Teaching of Science and Mathematics in Developing Countries, Paper prepared by Professor L.J. Lewis and his Associates, 4th July, 1967.

The Modern Education System and Outside Influences

In addition to being a response to the extreme need of skilled personnel, which was mainly conducive to the introduction of a modern education system into the Kingdom, the expansion of the system was, to a great extent, due to the experience and ideas of the Egyptian advisers and educationists, in co-operation with Saudi graduates from Cairo University who have been holding the key positions in the Ministry of Education since its foundation in 1953 A.D. (1373 A.H.) Both groups have been playing a vital role in evolving the education system throughout Saudi Arabia.

The Deputy Minister of Education of Saudi Arabia, Abdul Wahhab Abdul Wasie, has categorically confirmed the impact of outside influence on the new education system in the Kingdom, when he reiterated in his lecture in Beirut in 1968,[1] "We had to depend on experts from the Arab countries to form our curriculum which went through many changes within short intervals of time. These curricula soon proved to be a mixture of the old and the new in the Arab world, and were not characteristic of our society. The contribution of Arab experts and educationists were obviously influenced by the pattern of education in their several countries which were dominated largely by French and British culture."

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1. Lecture given at the Unesco Training Centre for Arab Personnel, Beirut, 1968, "Education in Saudi Arabia; Past and Present," p.20.

In addition to the Arab experts and educators working in the country, there was another factor which had its bearing on the development of the modern education system in Saudi Arabia. It was the country's membership in the Arab League.

The second item in the Charters of the Cultural Arab Unity, stated that, "All the members of the Arab League are to co-operate fully in educational, cultural and scientific fields, and to co-ordinate and develop their systems and organizations through the exchanges of experience, information, teachers and the fruits of technical and scientific researches and so forth".[1]

Furthermore, all the educational and cultural conferences organized by the Arab League have regularly been participated in by the Saudi Arabian delegates.

In addition, the co-operation between Saudi Arabia and UNESCO has opened a new dimension of educational activity and experience, and has contributed to the rapid development of modern education in various levels.[2]

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1. Al-Munazzamah Al-Arabiyyah Littarbiyat wal Thaqafah wal-Ullūm, Jamiāt al-Duwal al-Arabiyyah, Cairo, 1964, p.9.

2. Two colleges were established under the auspicies of Unesco:
   1. College of Engineering in 1962.
   2. College of Education in Riyadh in 1967/68.

The cultural and educational bilateral agreements signed between Saudi Arabia and other countries, such as the United States of America in 1968, Tunisia in 1965, Morocco in 1967, Mali in 1967, Iran in 1967, Kuwait in 1965, Jordan in 1963, Qatar in 1968, Egypt in 1972, have further increased the impact of external attitudes and experience on development.

Conflict Between the Old and the New

The old traditional education system in Saudi Arabia has undergone little change since the dawn of Islam. It is, therefore, not capable of producing people who can serve the modern society such as economists, scientists, administrators, engineers, technicians, architects, and whose existence is indispensable to the development of a modern state.

The existing traditional system could, at its best, turn out only Imams, preachers, judges, theologians, religious scholars and teachers, who could perpetuate a traditional outlook. The reversal of this trend could not be achieved without considering education as a principal tool for revolutionising society and bringing about substantial changes in its structure.

The function of the old system is more of a conserving than an innovating nature. "It is based on inert ideas, rote memory and reliance

upon authority, to the exclusion of any will to create independent ideas, or to plan productive actions.... The students had to acquire a body of beliefs, laws and rules of behaviour which represented the revealed truth. This truth could be grasped, not by any kind of empirical method or reasoning, but only through authority. It was embodied in a complete set of books written in past centuries, books regarded as final and infallible. These represented the final science."[1]

This description of the state of education in Egypt before modernisation applies equally to conditions in Saudi Arabia before the introduction of a modern education system. In so far as schools transmit the culture of society, they tend to be more conservative than innovative. But in societies which are characterized by social and economic changes, such as Saudi Arabis is now undergoing, schools can contribute to change as well, in that they prepare the youth for newly created positions in the society, and they can provide training in the skills needed to meet the new requirements of a changing society.

Despite the conservative influences, new conditions and problems arise, and new ways of dealing with them develop. Advances in science and technology, even if accidentally discovered and delayed in acceptance, eventually upset the modes of behaviour of all groups.

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1. A.F.A. Ridwan, Old and New Forces in Egyptian Education, New York, 1951, p.72.

It is clearly incumbent upon Saudi society to provide through its educational institutions and otherwise, so that its members may be enabled to make the best adjustments to new and changing conditions, practice and objectives.

"Education is an agent of change. When societies were simple and traditional, education could concern its whole self with the past. It could afford of doing nothing, but looking back. But traditional societies are vanishing, and new social systems are emerging under the impact of science and technology and industrialization. The old education is, therefore, inadequate for these times".[1]

Besides, the task of the school is not only to prepare the individuals for living in society, but also to help make society a better place in which individuals can live.

The greatest criticism that can be directed against traditional education is that it failed to provide individuals with the leadership the country so critically needed. Moreover, there was the divorce between the information that pupils were expected to acquire in the schools and the actual social conditions and needs of the people.

The emergence of a modern education system in Saudi Arabia is ineluctable, as a new way of life demands a specific system of education to serve

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1. J.W. Hauson, & C.S. Brembeck, Education and the Development of Nations, Holt, Rinehard & Winston, N.Y., 1966, pp.226-227.

it and develop it. But as has been pointed out previously, with the founding of the new system, the old one continued to exist side by side.

As a result, the conflict between the old and the new has become more persistent. The former is strongly supported by the religious institutions, whereas the latter is reinforced by modernism whose existence is largely due to the impact of the oil industry on the social and economic patterns of the country and the developments the Government has been able to encourage as a result of the improved financial position.

Conflict between old traditional and new aspirations in a society such as Saudi Arabia, is a normal feature of every developing country. But the intensity of this conflict may disrupt the coherence of society, especially where the new aspirations transcend the cultural values which are firmly rooted in the accepted traditions of the country.

In Saudi Arabia, the strength of the religious traditions, the strength of the community structures based upon the tribal groupings, as well as the differences between the town dwelling and the nomadic Saudi has meant that the intrusive modern developments present a much more sweeping challenge of change than modernization has presented elsewhere. Furthermore, it must be recognized that the development of a modern education system is for a large proportion of the Saudi people the first impact of modernization for them to be required to respond to as individuals.

As a result of the impact of the modern technological development, the country has been forced under economic and social pressure to shift from a feudal economy to an increasingly industrial one, from a traditional social structure towards a structure more in accord with the requirements of a modern society, from a society whose thinking was dominated by an authoritarian faith to a society operating in terms of a scientific view of the natural world.

The continuity of the present dualism in the country, which represents the two forces, namely the old and the new, could eventually weaken the cohesion of the Saudi society and pose an impediment to progress. Moreover, the existing gap does not help to bring the society to the new levels of science and technology, indeed it jeopardises the running of affairs on modern practical lines, and threatens the harmony of the social and economic changes that are taking place throughout the Kingdom.

It is unrealistic to hope to maintain traditional modes of education parallel to, but separate from, a modern system of education. Both are supposed to develop fully the children's aptitudes and talents, and acquaint them with their environment and the national culture in which they live.

At present the students in the modern secondary system lack an adequate knowledge of Arabic and their Islamic heritage, on the other hand, the students educated in the traditional way have little understanding of the modern world.

The number of students in both these institutions will grow, and the two groups will show marked differences of intellectual attitudes and ideas towards life. If integration of the two sections of society is to be brought about, it would appear to be necessary to unify the two systems of education.

However, the unification of an educational system does not necessarily imply the uniformity of all educational institutions, nor need it operate against the diversifications of studies as needs require. Diversification and specialization are the basis on which modern technology is based and can provide ways of integrating the old and the new. It is, therefore, necessary to provide within the education system both a common foundation and to ensure the possibilities of diversification and specialization at the more advanced levels. To obtain the former objective, it is important that the education system avoids a divorce between the religious and the secular components. To ensure the latter objectives, the relevance of the special provisions to social, economic and technological interests need to be established. In pursuing such a synthesis it is worth recording that Islam in its essential spirit implies a unity of the secular and the religious.

Therefore, these diverse educational institutions must draw their philosophy and principles from one source, namely Islamic culture on which

the Saudi Arabian Kingdom was established, at the turn of the present century.

"It is undisputed fact that every education system basically consists of a set of certain social ideals, norms and values and is based on a specific way of life and culture. It is in this realm that imitation is suicidal. On the other hand, as far as techniques and methods are concerned, one country can safely profit from the experiences of others. But great care should be taken in respect of values, principles and ideals, for a conscious and unconscious adoption of them may destroy the entire fabric of a nation's culture".[1]

In this respect it must be noted that Islamic society elsewhere is already involved in this process of modification, adaptation and reconciliation between the old and the new. Perhaps the outstanding example is the way in which the Al-Azhar University in Cairo, in many ways the guardian of Islamic scholarship and learning, is integrating modern and ancient studies.

Thus, the educational set-up will have to be thoroughly overhauled in the light of the Islamic ideals and precepts and with due regard to the scientific spirit which resulted in Arab civilization, conserving, transcending and transmitting the fundamentals of Greek science and philosophy (see E.G. Browne, Arabian Medicine, C.U.P., 1962). Compilation and introduction of new books will have to be done from this viewpoint. And overhauling

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1. A. Khurshid, Principles of Islamic Education, Islamic Publications Ltd., Lahore, 1967, p.5.

of the entire curricula and the creation of an atmosphere which is conducive to the achievement of these objectives will also be called for. It will also be necessary that in the teaching of each and every subject -- particularly in respect of social studies -- the viewpoint of Islam should be interpreted to the students, and at every stage of his education proper care should be taken to arouse his sense of moral responsibility.

To learn from the Western countries which are scientifically and technologically advanced, is one thing, but the moment Muslims forget that their roots are in Islam and become the intellectual camp-followers of others, their creative energies are likely to be damped.

If Islamic culture is to successfully reassert itself in the changing circumstances, efforts will have to be made in all branches of learning to provide a new synthesis of knowledge. This obviously is not the work of a few individuals or associations. It will involve the whole intellectual society and the foundation for change will be dependent upon curriculum developments in the school system that will fully conform to the spirit of Kuran and Traditions, without overlooking the requirements of modern learning and scientific thought.

"In this respect, traditional Muslim education can provide a noble example for modern society. The traditional 'alim', learned man,

whatever the field of his interests, was always conscious of his responsibility to God, even whon he discussed secular subjects. It is a remarkable fact that the books which have come down to us from the classical Islamic period, even when they deal with algebra, chemistry, philosophy or astronomy, invariably begin with the significant phrase, 'In the name of God, the Beneficent, the Merciful', and end with 'God knows best'. These two phrases throw significant sidelights on the outlook of Muslim scholars of the classical period".[1]

"Muslims advanced when the pursuit of all knowledge and truth was considered a religious duty. Their society was open to all cultural influences that did not run counter to the basic principles of Islam. Islamic civilization was enriched by contributions of Hellenism. The Prophet had exhorted them to seek knowledge from the cradel to the grave, even if they had to travel to distant China in search of it. The Muslims can advance now by similar attitudes. If they are true to the spirit of Islam, they can learn much from Western scientific and technological advances".[2]

When the nations, left behind in the race of progress, awaken they find themselves greatly handicapped in many respects but in one respect they have an advantage, only if they could avail themselves of it.

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1. The Scholar and Society, Report on a study group held in Tunisia, April 1959, p.46. A Bulletin of the Committee on Science and Freedom, No.13, London, 1959. The Relevance of Religious Education in the Contemporary Arab World, by H.N. Nashabi.
2. K. Abdul Hakim, Islamic Ideology, The Institute of Islamic Culture, Pakistan, 3rd ed., 1961, p.312.

Advanced nations have already experimented in various ways, and the advantages and disadvantages of every step that have already been taken are evident. The ways in which they have sought to solve their difficulties and face their problems serve to guide and warn those who have to tread the same road later.

CHAPTER IV

MODERN TECHNOLOGY AND RESOURCES DEVELOPMENT

Crucial to the planned development of socio-economic growth is a realistic assessment of the natural resources available; the quantitative and qualitative character of the manpower resources; and the adequacy or otherwise of the education system, to provide and maintain a sufficient flow of people with the requisite knowledge and skills to man industry and the social services.

Saudi Arabia enjoys a wide variety of mineral wealth, raw materials for industrial process. It has a source of capital which, while not unlimited, is reasonable for development in the social and economic sectors for the foreseeable future.

The population, however, is small compared to the total area.[1] This sparsity of population, together with the acute shortage of skilled manpower, are reasons for the substantial emphasis which the Saudi Government has placed upon development of human resources, as the cornerstone of its economic development policy.

This Chapter analyses the natural resources and their present state of exploitation. Most of the facts and figures are mainly based on two official reports, namely An Economic Report in Saudi Kingdom, in 1965; and Planning for Growth in the Kingdom, in 1967. Both reports were published

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1. 865,000 square miles (including Rub al-Khali).

by the Central Planning Organization of Saudi Arabia.

Major Natural Resources

The major natural resources available in Saudi Arabia are petroleum, minerals, agriculture and fishing.

The present proportion of contribution of each of these resources to the national income respectively is indicated below.

The petroleum industry occupies a dominant position in the economy of Saudi Arabia. It produces more than 50 per cent of the Gross National Product, more than four-fifths of Saudi Arabia's foreign exchange earnings. Clearly, this is a "basic" industry without which the recent rapid development of the Kingdom (including an improvement in the standard of living) would not have been possible.

The contribution of the petroleum industry to the local economy is made in two major ways: 1) via its contribution to government revenues (with royalties and income taxes from the oil companies, regularly making up more than four-fifths of total Government receipts); 2) via its local expenditure in Saudi Arabia. ARAMCO local expenditure totalled 396 million Saudi Riyals in 1964 - expenditures which were 18 per cent of ARAMCO payments to the Government in the same year.

About 93 per cent of the total petroleum production was accounted for by ARAMCO whose production rose, in 1969, at the rate of 5.5 per cent

to 1,092.3 million barrels from 1,035.8 million barrels, in 1968, and whose cumulative total production rose to 11,792.3 million barrels in 1969, since the start of the production in 1938. Arabian Oil (Japan) produced 58.8 million barrels in 1969 as against 55.1 million barrels in 1968, showing an increase of 6.7 per cent. The production of Getty Oil declined slightly from 23.2 million barrels last year to 22.7 million barrels in 1969.[1]

The following table shows the government return from oil production from 1965 to 1969:-

Table 5 Oil Revenues by Source (Million U.S. dollars)

Year	ARAMCO*	Getty Oil**	Arabian Oil**	Other Oil Companies**	Total
1965	618.4***	23.8	20.4	-	622.6
1966	745.5***	20.6	22.3	1.3	789.7
1967	859.4***	17.8	31.8	0.1	909.1
1968	872.0	13.6	34.3	6.9	926.8
1969	895.2	15.2	37.1	1.5	949.0

* Source: ARAMCO's Statement to the Government.

** Source: Ministry of Petroleum and Mineral Resources.

*** Including special payment of $152.5 million in 1963, $46.0 million in 1965, $29.4 million in 1966, $29.3 million in 1967.

An encouraging feature has been the accelerated growth in oil income during 1970 as compared with previous years. Specifically, in the case of ARAMCO, the oil payments to the Saudi Arabian Government during 1970

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1. Saudi Monetary Agency, Annual Report, Research Dept., 1969, pp.10-14.

have been estimated at $1,083 million compared with an actual payment of $895 million during 1969, signifying an increase of 21 per cent.[1] Recent international negotiations will result in the oil industry providing an even bigger contribution to the G.N.P.

Thus the development of the petro-chemical and mineral sectors occupies a position of crucial importance in the economy of Saudi Arabia, as this is the sector in which Saudi Arabia enjoys comparative advantage and by the development of which, in addition to agriculture, the country can realize its long-term objective of diversifying the economy. The Government has been actively engaged in the discovery and exploration of oil and mineral resources and their full exploitation by the establishment of a network of industries based on petro-chemicals and minerals.

Of the other available minerals, all those presently being exploited, except salt, are used by the local construction industry. Of these, by far the most important is limestone, used in the production of cement.

In 1964, sales of cement produced in Saudi Arabia, using local limestone, was only about 55 per cent of total cement consumption. This means that there were large cement imports indicating the additional market available for expanding local production.

However, the production of building materials is perhaps the most flourishing of manufacturing activities in the Kingdom. Construction activity has been growing by about 8 per cent per annum and government

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1. Saudi Monetary Agency, Annual Report, op. cit.

construction growing much more rapidly.[1]

The census shows five activities in building material manufacture:-

Table 6

Building Material Activities	Number of Establishments
Cement block and tile	394
Sand and sand brick manufacturing	40
Cement manufacture	6
Marble works	17
Iron gates, windows and stares	215
	672

The agricultural contribution to the Kingdom is small. At present, only about one-third of the total supply of cultivable land is utilized. The restrictive factor is water rather than cultivable land. The distribution of cropped land among the various alternative uses in the period 1960-1963 was as follows:[2]

1. See Appendix VI, Categories of Industrial Establishments in Saudi Arabia, (1962/63)

2. Source: Economic Research Institute, American University of Beirut.

Table 7

Province	Field Crops	Vegetables	Dates & Fruits (Hectares)	Total	Percent of Total
North	8,038	778	2,320	11,136	4.2
East	2,368	899	11,000	14,267	5.3
West	17,005	4,008	4,711	25,724	9.6
Qassim	26,486	8,190	2,648	37,324	13.9
Central	42,930	14,165	5,304	62,399	23.3
South (E)	104,188	5,092	7,785	117,065	43.7
Total	201,015	33,132	33,768	267,915	100.0
Percentage per crop	75.0	12.4	12.6	100.0	

This data shows that field crops are the chief products in all major agricultural areas, except in the east where date and fruit production is predominant.[1] The data also show that the Southern region is a significant area in terms of magnitude of production in all categories. This area has great potential importance for agricultural development. However, its distance from the major population centres and the lack of adequate transport facilities has resulted in its producing primarily for a limited, regional market. If access were provided to a larger market area it would be presented with an

1. G.S. Medawar estimates annual average date output for the period 1960/1963 at 236,783 tons. This suggests that Saudi Arabia ranks third in world date production, behind Iraq and the U.A.R. The annual average yield is 48.2 kilograms per bearing palm.

incentive to expand production.

Because of the smallness of the contribution of agriculture to the country, Saudi Arabia imports about half of its food requirements. In the period 1947/1962, imports rose from an estimated SR 20 million to SR 400 million, a twenty-fold increase. A projection of past trends results in the following forecast for 1970:-

Table 8

Items	1965 Import Demand 1,000 tons	1970 Import Demand 1,000 tons
Total Cereals	250	271
Total Vegetables	106	60
Dates	4	20
Fruits	63	68
Meat and Preparations	16	25
Vegetable Oils	2	3
Fats and Butter	11	14.5
Tinned Milk	7.5	11
Other Dairy Products	9	13
Sugar	62.5	106

Detailed data on yields, prices and composition of present local production are presented in Appendix I. Appendix II contains data relevant to a 13-year study period ranging from 1949 - 1950, through 1962 - 1963. This table shows that a 2.5 fold increase has occurred in the cropped land area during the period, with the area under cultivation

growing at about 7.5 per cent per year. This is a high rate of expansion for an economy restricted by a shortage of available complementary resources. A rate of three or four per cent per annum would be quite good in the future. The rate of expansion for cropped areas is ultimately tied to the rate at which additional resources can be provided.

Appendix II shows that the rate of overall crop production has about kept pace with the rate of growth in cropped areas. An interesting feature of the data is the marked increase in vegetable and fruit production. The growth here far exceeds the rate of growth of other products, both in terms of cropped area, production and total value.

Fishing is largely undeveloped, in spite of the presence of an abundance of commercial varieties of fish in both the Gulf and the Red Sea. Saudi Arabia has, therefore, lagged far behind other developing countries in developing a broad-based fish industry of its own.

The consumption of fish is mainly confined to the coastal areas and big towns only. There is, as yet, no systematic marketing such as might increase the demand and thereby stimulate a more active and bigger fishing industry.

However, during 1968-69, Saudi Arabia exported 1,163 tons of fish and shrimps valued at SR 2.1 million, compared with only 207 tons valued at SR 417,288 five years ago.

Petroleum Industry

One of the essential ingredients in the growth processes of economically advanced countries has been the presence of a leading sector. Typically, there have been one or more sectors where demand for output is strong, and where profit expectations lead to rapid expansion. The presence of such a growth sector implies several desirable effects. First, a growth sector contributes directly to growth in the value of national production. Furthermore, it implies desirable secondary effects. For example, leading sector growth means increasing demand for the inputs it employs in production. Demand for factors of production will expand as the leading sector expands, thereby increasing income and derived demand for goods and services. Also of great importance may be the external benefits generated by the leading sector which accrue to other sectors of the economy, by lowering their costs of production or making new production possibilities available. Thus, the role of a leading sector is to induce the expansion of other sectors, thereby providing the drive which pulls the economy along in general expansion.[1]

In Saudi Arabia, the oil sector is clearly a leading sector. The exploration began in 1934 and the commercial quantities were discovered in 1938.

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1. Economic Report in the Kingdom, Central Planning Organization, 1965, p.26.

The following table shows the annual production of crude oil in the Kingdom from 1965 to 1969:-

Table 9 Production of Crude Oil (Million Barrels)[1]

Year	ARAMCO	Getty Oil	Arabian Oil	Total
1965	739.1	32.6	33.1	804.8
1966	873.3	30.2	46.5	950.0
1967	948.1	25.1	50.6	1,023.8
1968	1,035.8	23.2	55.1	1,114.1
1969	1,092.3	22.7	58.8	1,173.8

ARAMCO's oil operation during 1969 resulted in the completion and operation of the first off-shore gas-oil separator plant in the Arabian Gulf with an initial capacity of about 200,000 barrels per day, and in the increase in production capacity of light crude from the Shegum area of Ghawar field by bringing in new oil wells and by adding more gas-oil separating facilities and storage capacity.

However, the petroleum industry also makes an indirect contribution to the economy by its requirement of supporting services involving skilled and semi-skilled manpower, in addition to its own skilled manpower requirements.

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1. Op. cit., p.83.

In so far as these, at the present time, have to be met in part by expatriate sources, there may be said to be a deficit factor involved. But in so far as the lack of indigenous skilled manpower is stimulating the development of an educational and training programme it is undoubtedly an indirect contribution to the greater development of the country.

Domestic Consumption of Petroleum Products

Reflecting the rapid pace of development in the Kingdom, petroleum products consumption has grown at an annual average rate of 11 per cent, from 1956 to 1964. It has grown from 10,457 barrels per day in 1960 to 18,555 barrels per day in 1964 - an increase of 77 per cent. It is expected to continue to grow with the economy as a whole.

Nevertheless, domestic consumption is minute compared with production, being less than one per cent of production in 1964.

Domestic Refining

The country presently has four refineries: The ARAMCO refinery in Ras Tanura, which produces nine main products, most of which are exported abroad, the remaining part being marketed in the country for local consumption; and the Getty Refinery which produces at present naphtha and fuel oil only; and the Arabian Oil Refinery (Japan) which produces naphtha, diesel oil and bunker oil, and Jedda Oil Refinery which started its operation in August 1968. A fifth refinery is expected to be set up in

Riyadh in 1972. Present refineries are relatively small compared with oil production in the Kingdom.

Potential Reserves

The enormous petroleum reserves reflect the semi-detailed oil exploration of only about 10 per cent of the country's area (plus 12,000 miles off-shore). There is, therefore, the probability that additional exploration will disclose still additional existence.

The seismic surveys designed to disclose the probable existence of petroleum deposits have already been carried out in the Western Province, along the Red Sea (where about 18,000 square miles have already been surveyed).

It is planned to do additional surveys covering: 1) 7,000 square miles in Riyadh area, and 2) 115,000 square miles in the area relinquished by ARAMCO. ARAMCO has released almost one-quarter of its original concession. The present ARAMCO concession now covers only about one-sixth of the country. Thus, about five-sixths of the country is open for exploration by other countries.

Studies on the Kingdom's oil reserves were completed during 1969 by two U.S. firms, McCord and Corelab, in accordance with agreements signed with the two firms in 1965 and 1966 respectively.

According to the Report submitted, oil reserves in the fields included in these studies are estimated to be 126.4 billion barrels, of which

al-Ghawar oil field accounts for 80 billion barrels, Safaniya for 15.4 billion barrels, Abquiq for 8 billion barrels, Khurais for 7.5 billion barrels, and other fields for 15.5 billion barrels. Estimates prepared by ARAMCO, Getty Oil Company, and Arabian Oil Company (Japan) for reserves in the oil fields not included in these studies place their reserves at 20.2 billion barrels. Thus, the total proved oil reserves in the Kingdom stood at 146.6 billion barrels and constituted more than 30 per cent of the total proved world reserves.[1]

Saudi Arabia, therefore, continues to maintain its position as the country with the largest oil deposits in the world.

Petroleum Industry and Labour Force

The oil industry has a direct effect on labour and its status in the country. For the first time in Saudi Arabia's history a large number of Saudi people are engaged in industry resulting in a process of urbanisation and in the emergence of workers requiring new skills. However, the lack of local trained workers has led to the importation of foreign workers into the country.

In 1948, the number of Saudi employees (officials and workers) working for the Arabian American Oil Company was 12,226, consisting of

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1. Annual Report, op. cit., p.50.

a ratio of 60.4% of the total number of employees, this figure includes 6,247 Saudi employees that were employed in that year alone.

Wage and salary payments have been growing steadily under offsetting influences. On the one hand, the average annual income of Saudi employees has been rising as workers have been trained and up-graded and as the wage scale has been increased. On the other hand, the number of Saudi workers have been reduced by gains in efficiency. It has been reduced from 18,325 at the beginning of 1958 to 12,880 (excluding 104 "casual employees") at the end of 1964. Much of the scope for economy in the use of manpower must have been achieved already. The reduction in numbers is growing smaller and smaller every year; in 1964, the net reduction in total force and Saudi numbers was only 0.8 per cent. When the total working force is steady, there will be less scope to share out cost reductions achieved previously from reducing numbers.

Training facilities for Saudi workers in oil industry have only been provided by ARAMCO since its establishment in the early 1930s. But it must be noted that the oil industry has been somewhat self-contained. In consequence its training programme has had little influence on other industries.

The Need for Technical Skills in the Oil Industry

Owing to the Government's realization of the pressing demands of ever-increasing volume of trained manpower in the oil industry, the Ministry

of Petroleum and Mineral Resources was established in January 1961.

Since its foundation, the Ministry has found it necessary to carry out many projects that pertain in varying degrees to the concerns of the oil industry. In its endeavour to implement these projects the Ministry was impeded by two main factors: the first one is the lack of skilled labour in the oil industry, and the second is the Government routine.

With regard to the first factor, it was noted that the oil industry has not promoted the necessary programmes for training its local employees to the degree necessary to make the industry independent of expatriate manpower. Locally trained employees are needed to operate governmental projects for refining and distribution of products for local consumption. Skilled labour is needed to operate the Government drilling rigs. Oil salesmen are needed. Industrial engineers are required for the petrochemical complexity of industries that will develop.

Owing to the failure of the oil industry to furnish such technical skills during its life of more than 30 years, the Ministry of Petroleum and Mineral Resources, in 1964, established the College of Petroleum and Minerals, (Royal Decree No.397, 5/5/1383 A.H.) The College is charged with basic research connected with the petroleum and mineral industries and with the vital development of specialised manpower. There could be little doubt that, if successful, the College would be of enormous value to the country, and an answer to the obvious need.

This was the first attempt sponsored by the Government to produce highly trained Saudi engineers and technicians who are as competent as those of the foreign companies. However, it will take some years to produce results on a large scale. In 1967/68, there were only 147 students taking the Orientation Course, which is preparatory to the professional course itself, which is itself four years in duration. In consequence, it has yet to make any significant impact on the skilled manpower needs.

In addition, there are two other government sponsored organizations used for the development of Industrialization which are closely related to the College. First, the Petroleum and Mineral Organization (PETROMIN), established in 1962, to provide at first local, and later the international, industrial development of the country. Secondly the directorate of Mineral Resources which is intended to diversify Saudi Arabian national income through development of mineral resources other than petroleum.

Close co-ordination between the College of Petroleum and Mineral Resources and these two organizations is systematically maintained through two channels: an interlocking membership on the boards of the various organizations; and the High Co-ordinating Committee, which is charged with specific co-ordination of policy on all matters concerning the development of petroleum and minerals in the country. Thus, the Chairman

of the Board of Trustees for the College of Petroleum and Minerals is also the Chairman of the High Co-ordinating Committee and the Minister of Petroleum and Mineral Resources.[1]

However, the establishment of the College of Petroleum and Minerals was a turning-point in the government initiative to train Saudis on the spot to a high level of capacity in managerial and technical skills in various phases of industry, in order to furnish the future oil industries with the necessary skilled manpower.

Upon the petroleum industry depends, to a large extent, the other industrial activities in the Saudi Kingdom. Therefore, in terms of future development, it is quite clear that petroleum will continue to be a major contributor to the national income in the country and the economic life-blood of industrialization.

Furthermore, this leading industry cannot be expected to be dependent permanently upon expatriate manpower, particularly in the administrative, managerial and technical levels.

The College of Petroleum and Minerals will be a valuable contributory factor in the provision of highly skilled Saudi manpower, in the oil industry, in the future. But it will be necessary to reinforce this by

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1. Claire Nader & A.B. Zahlan, Science and Technology in Developing Countries, The Cambridge University Press, G.B., 1969. (The College of Petroleum and Minerals by Saleh Ambah, the Dean, p.252.)

providing training facilities for the indigenous manpower in the supporting and dependent industries and services.

To further these educational and training interests, a unit should be established in the Ministry of Petroleum and Mineral Resources, to assess the manpower needs of the petroleum industry and related activities. As the findings of such a unit will result in action that touches upon the interests of the Ministry of Education, the Ministry of Labour and Social Affairs and the Central Planning Organization, it will also be necessary to establish consultative machinery involving these interests and to ensure integration of action between them.

Mineral Availability in Saudi Arabia

As has already been pointed out, the Government is wishful to diversify the economy. Studies of the mineral deposits in the country are summed up in Table 10.

The long list of minerals thought available in Saudi Arabia, as compared with the short list of construction materials presently being exploited, indicates the magnitude of the continuing tasks of study, prospecting and providing of the potential resources which remain.

Table 10 — Prospects for Economic Exploitation

Mineral	Already being Exploited	On basis of Golology, Geophysics, Geochemistry drill			Additional Probabilities	
		Excellent	Good	Fair	Good[1]	Fair[2]
Metallic						
1. Gold, Silver, Zinc, Copper, Lead				x		
2. Titanium, Iron				x		
3. Chromium, Tungsten Molybdenum				x		
4. Manganese, Lithium				x		
5. Germanium, Cadmium, Tin, Antimony, Nickel, Platinum, Titanium Zirconium, Beryllium, Thorium				x		
Non-Metallic, inc. Building Materials						
1. Granite, Limestone, Gypsum, Marble, Salt				x		
2. Silica				x		
3. Barytes, Asbestos, Phosphate				x		
4. Fluorite, Magnesite, Sulphur, Talc, Fieldspar, Clay, Kyanite				x		
5. Graphite, Mica, Beryl, Bauxite, Magnesium				x		
6. Potassium				x		

1. Evidence exists.
2. No solid evidence but existence proven in Africa under similar geological conditions.

Mineral Exploitation

As has already been stated, the mineral affairs of Saudi Arabia are in the hands of the Directorate of Mineral Resources of the Ministry of Petroleum and Mineral Resources, and the General Petroleum and Mineral Organization (PETROMIN). Whereas the Directorate is responsible for explorations of mineral resources, PETROMIN is primarily concerned with the exploitation of mineral resources, especially through joint ventures with foreign firms. PETROMIN operates two subsidiary organizations: The Arabian Drilling Company (A.D.C.) and the Arabian Geophysics and Survey (A.R.G.A.S.) The extent of the activities of these agencies is indicated by the expenditures approved for exploration and feasibility studies in 1963-1965, in Table 11.

Project funds allocations were as follows in 1963/64 A.D. (1383/84 A.H.) and 1964/65 A.D. (1384/85 A.H.)

Table 11

	Allocations *			
	1963/64		1964/65	
	Millions of Riyals	% of Total	Millions of Riyals	% of Total
Exploration and Feasibility Studies	8.2	76	27.4	93
Econimic feasibility studies in mineralized areas	8.2	76	27.4	93
Exploration for minerals in the Western & Middle Provinces	—	—	16.3	55
Drilling in mineralized areas	—	—	1.5	5
Establishment of a chemical laboratory in Riyadh	1.1	10	—	—
Miscellaneous equipment and construction	1.5	14	1.9	7
Total	10.8	100	29.3	100

* It should be remembered that not all allocations are spent. Thus, allocations for any one year may represent in part "carry-overs" from previous years.

In addition, expenditures by foreign agencies on approved exploration and feasibility studies represent an additional source of potential expansion. For example, exploration and feasibility studies by these foreign agencies involved allocations of 8.2 million Riyals in 1963/4 and 27.4 million Riyals in 1964/65. The chief participatory organizations were the U.S. Geological Survey Mission (SR 3.6 million were allocated

in 1964/65 for the salaries and allowances of this organization), the Japanese Geological Mission (SR 6 million were allocated in 1964/65 for salaries and allowances of this organization), and the French Bureau des Recherches Geologiques et Minieres.

All of these exploration and feasibility studies, using maps, aerial photographs, prospecting results, etc., resulting from prior efforts, are intended to prove commercially useful supplies of minerals known, or suspected to exist.

The progress of these studies is impressive. Through the co-operation of the Directorate General of Mineral Resources, the U.S. G.S. Mission and ARAMCO, 21 geologic quadrangle maps and 21 geographic maps of the Kingdom have been prepared. Over the period 1964/65, the U.S.G.S. transmitted 44 technical letters to the Ministry which deal with detailed geologic investigations in nine quadrangles.

The Bureau de Recherches Geologiques et Minieres (B.R.G.M.) is now working in three zones of investigation which cover an area of 141,000 sq. km. Their operations include prospecting, mapping, geochemical studies, which include the use of subsurface drilling.

Other mineral survey efforts include those of the Japanese group and theArabian Drilling Company. The former group has been particularly interested in the iron ore content of Wadi Sawawin. The latter group has been carrying out extensive sampling by core drilling. Future

efforts of the Arabian Drilling Company will be concentrated in Al-Amar, Wadi Fatima, Samrah and Al-Ays.

This survey of the exploratory state of the mineral potential of the country indicates clearly the extent of dependence upon expatriate skilled manpower at the higher levels of investigation, and industrial development. It also indicates the need for identifying the potential demand for education and training if Saudi manpower is to be available with the necessary knowledge and skills when production is inaugurated.

Some indication of the variety of education and skill needs is implied in the variety of activities already being developed under PETROMIN's direction.

PETROMIN'S Projects[1]

The steel rolling mill in Jedda started its production of reinforced bars in November 1967, with an annual capacity of 45,000 tons. Studies are under way for expanding this capacity to 70,000 tons. A second and a third stage is envisaged for the mill when iron ore would be smelted in the Kingdom and steel ingots produced.

The passing of the Saudi Arabian Fertilizer Company (SAFCO) into the stage of production, marks a further contribution by PETROMIN

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1. PETROMIN was established in November 1962. This autonomous agency is the leading example of the public entrepreneur in Saudi Arabia. The objective of this organization is to provide the basis for a faster rate of long-term growth than would otherwise occur through industrialization, where feasible, and through greater diversification of the economy.

to the diversification of the Saudi economy and the broadening of its productive base. The first consignment of 50,000 bags of urea was shipped from Dammam to Iran on 21st April 1970. SAFCO was set up by PETROMIN in 1966 to undertake the construction of the fertilizer plant which is managed and operated by Occidental Petroleum Corporation of the U.S.A. Its production will be bought and marketed by International Ore and Fertilizer Company (INTERORE) for 20 years. The plant has the capacity to produce 1,100 tons of urea, 600 tons of ammonia, and between 35 to 50 tons of liquid sulphur per day.

In February 1970, the contract for construction of an oil lubricating plant in Jedda was awarded to a joint Lebanese-Saudi company. The cost of the project is estimated at about SR 6.8 million and it is scheduled for completion in 1971. The plant, which would have an initial production capacity of 75,000 barrels a year, would be owned by the PETROMIN Oil Lubricating Company which would also undertake the marketing and distribution inside and outside the Kingdom. This company is owned 71 per cent by PETROMIN and 29 per cent by Mobil Investment Company.

Royal Decree No. 25/M was issued on 26th November 1969 approving the establishment of the Arabian Marine Petroleum Construction Company. The company would have a capital of SR 500,000 owned 51 per cent by PETROMIN and 49 per cent by the U.S. firm McDermott. It

would undertake all operations related to marine installations.[1]

While these investigations and studies hold out impressive prospects for future industrial development, it must be emphasised that they were, and still are, dependent upon foreign skilled manpower. However, in March 1970, the Ministry of Petroleum and Mineral Resources signed an agreement with UNESCO for co-operation in the establishment of an institute for applied geology in Jedda for training Saudi graduates in geology.

Agriculture

Although agriculture cannot be considered a leading sector, it is one of the key economic sectors in Saudi Arabia. The sector is important in terms of size alone. Recent population estimates suggest that about one-half of the population depends directly on agriculture for their subsistence. Obviously, the percentage dependent either directly or indirectly on agriculture for a livelihood is even higher. Thus, improvement in productivity would have a positive income effect for a large percentage of the population.

Cultivable land

The total land area of Saudi Arabia, including Rub al-Khali, is about 865,000 square miles. The cultivated area is estimated to be about 245,000 hectares,[2] while the cropped area is estimated to be about 268,000 hectares.

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1. Annual Report, op. cit., pp.51-52.
2. Measure of area in the metric system = 2.471 acres.

Only about 0.13 per cent of the total land is cultivated. For comparative purposes, the percentage of total land under cultivation in selected countries is presented below.[1]

Saudi Arabia	0.13 per cent
Egypt	2.5 per cent
Iran	10.0 per cent
Iraq	17.0 per cent
Lebanon	26.0 per cent

Average land holdings are only 2.2 hectares in area. Surveys by the Ministry of Agriculture in the North, West, East and the Qassim showed that 55 per cent of the holdings were less than one-half hectare, and that 80 per cent were less than 1.5 hectares in area. Furthermore, only four per cent of the holdings exceeded 10 hectares. Clearly, the land tenure system is characterized by small holdings, not conducive to mechanization of agriculture. These conditions tend to discourage private investment in agriculture and to keep agricultural productivity low, thereby resulting in the agriculture industry remaining labour intensive and not offering opportunity for developing agricultural skills and technology.

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1. Economic Report, op. cit., p.44.

Available Sources of Water

The major obstacle to agricultural development in Saudi Arabia is the acute shortage of water. The country lacks perennial rivers and average rainfall is less than four inches per year.

The available sources of water may be classified in two categories; the first source is shallow ground water found along wadi floors in alluvial fill and fed by current rainfall. These waters make up the perennial Arabian sources and represent water of the best quality available. Existing water sources of this category include Wadi Hanifa, Wadi Fatima, Nisa, al-Batin, Wadi Sahabah, Dawasir, Nairan and Wadi Hamdh.[1]

The second source is deep water, found mostly in sandstone areas. These are fossil waters deposited in past geologic eras. Such waters are utilized without hope of rapid recharge, therefore they should be treated as oil or any other irreplaceable resource. Deposits of such water are probably widely distributed and occur at depths of as much as 2,000 metres. Recently, ARAMCO confirmed the existence of a huge deposit of potable water near Riyadh.

The Ministry of Agriculture and Water Affairs is conducting a 15 year programme to determine the quality and quantity of water resources

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1. Economic Report, op. cit., p.44.

and irrigable land which may be combined for agricultural or livestock production.

Geographic areas of interest are: (a) Area I, the great Nefud sedimentary basin which includes Wadi Sirhan, Tubuk and Qassim; (b) Area II, the Asir highlands; and (c) Area III, the Southern Jabal Tuwaik region.

So far, water surveys for five out of the eight regions into which Saudi Arabia was divided have been completed, and final reports have been submitted to the Ministry of Agriculture and Water Affairs. The total area of these five regions is more than one million square kilometres. The survey for region VI with an area of 200,000 square kilometres, including the Western and Southern Provices, is expected to be completed in the near future. Contracts for surveying regions VII and VIII with a total area of 855,000 square kilometres are expected to be awarded in the next fiscal year.[1] The completion and implementation of these surveys would help in tapping and utilizing the underground water resources which the Kingdom is believed to possess, thus removing one of the major obstacles to economic growth and making a significant contribution to agricultural development which is of paramount importance

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1. Annual Report, 1969, Research Department, Saudi Monetary Agency, p.45.

in transforming an otherwise desert economy dependent on oil, into one which is productive and diversified.

The Ministry of Agriculture and Water Affairs has recently concluded a contract with Ital Consult for detailed studies on Wadi Jizan Dam. The Dam will store 50-70 million cubic metres of water. In addition to the construction of the Dam, the project includes the digging of drainage and irrigation trenches. The cultivable land in that area consists of 5,100. hectares of irrigated land, 6,550 hectares of xerophilous land and 7,550 hectares of natural land.

The implementation of the project will provide agricultural lands as follows: 7,400 hectares of irrigated land, 5,550 hectares of xerophilous land, and 7,550 hectares of pastural land. The costs of the project are estimated at SR 45 millions and implementation is scheduled to be finished in 1969/70.

The German Company Waccoty, with which the Ministry has a contract, completed the studies for an irrigation and drainage project, in 1965, at Al-Hasa. Until February 1970, about 70 per cent of the construction operations were completed. The present cultivable land areas of this project are estimated at 104,000 dunums.[1] This project will double the area, so that it will reach more than 200,000 dunums. This

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1. Unit of area used here is the "danum", which is equal to 1,000 square 'eters'.

is the biggest agricultural project in the Kingdom and includes the revival of 40 towns and villages populated by more than 190,000 people. The costs are estimated at SR 190 millions and implementation requires six years.

The Ministry, which collaborated with ARAMCO, has completed studies on the construction of modern irrigation and drainage systems covering an area of 3,000 hectares out of 4,000 hectares, in the Qatif area. Measures are being taken to execute this project which will cost SR 12 millions and will require four years to implement. In addition, studies have been made of the possibilities of bringing additional land under cultivation in Qatif area.[1]

Studies are also being made to determine the agricultural possibilities of the Yarbin. A SR 300 million development project is envisioned, spread over the next ten years. The planned feasibility studies include surveys of topography, soil, water, and crop possibilities.

Since 1963, the Ministry has been engaged in a ten-year project, designed to control and drift in the Hofuf region. Some SR 4 million of the anticipated SR 10 million outlay have already been spent on the planting of 30 million bushes and trees which form natural wind breaks. Water

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1. Economic Report of Saudi Arabia, 1965, p.101.

resources are ample in this area so that land thus reclaimed may be used for rice, fruit, vegetable and feed crop production.

Finally, reference should be made to the Wadi Haradh Settlement project. The objective of this project is to settle 1,000 families on unoccupied, virgin land. The project is divided into two stages of five years each. The cost is estimated at from SR 30 to SR 50 millions. It is hoped that an area of 12,000 acres with thus be brought under cultivation. It is intended that production will include vegetables, fruits and field crops for animal feed. Technical assistance will be furnished by ARAMCO in conducting feasibility studies and demonstration farming.

In addition to the projects mentioned earlier, there are other projects being conducted, such as Desalination Projects in Jeddah,[1] Wajh,[2] Umlej and Dheba and also the Faisal Model Settlement Project,[3] the Building of Water and Soil Central Laboratory and Mechanical and Agricultural Training Project.

The total impact of these developments upon the economy and people are bound to be of great significance. But they also imply considerable

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1. Construction work and electric power plant was completed. The plant which would produce 5 million gallons of water per day, and 50,000 kilowatts of electricity, is expected to be inaugurated soon.
2. The plant has been in operation since October 1968, and a similar plant for Dheba , on the Western coast, is expected to be inaugurated soon.
3. Expected to be completed before the end of 1970. By the end of 1970, the first two groups from Bani Murra tribe would be settled.

educational problems. Apart from the need to develop new agricultural skills to exploit the irrigated land, people will find themselves living rural-urban rather than pastoral lives and will be involved in new modes of social and local govemment activities. This implies the need for programmes of social education as well as programmes of vocational training and extension service activities. One new feature of special need is likely to be that of functional literacy. For without understanding co-operation from the people, the efforts of the Government agencies might prove disappointing.

Education and Training Needs in Agriculture

Apart from the problem of water shortage, a shortage of skilled manpower is a critical problem to be overcome if development of agriculture in the Kingom is to be accelerated.

"Where a government is seriously concerned about the need to transform the structure of the rural economy and to revitalize agricultural methods, attention must be given to basic studies and specialized training programmes that will provide on the one hand the agricultural scientists and agricultural economists, and on the other the agricultural extension workers, who are indispensable to any effective programme for agricultural development. No government efforts for the training of agricultural specialists will achieve much without a basic. programme of agricultural education for farmers, actual

or prospective; along with a schools' syllabus that provides such agricultural knowledge as is relevant for each level of education."[1]

According to the report (Planning for Growth, Central Planning Organization in Saudi Arabia, 1967), it is estimated that 1,000 trained persons are urgently needed to serve the needs of persons engaged directly in agricultural pursuits. In addition the work skills of a significant number of the agricultural labour force should be upgraded.

Furthermore, according to 1964 data, Saudi Arabia had approximately 1,2000 tractors, representing an investment of about SR 38 millions. Machines owned by the Ministry of Agriculture included some 400 tractors and 16 threshers which are distributed among the agricultural centres of the country.

During the years 1964/1966, the Ministry further invested more than SR 7 million for the purchase of 358 graders, 325 ploughing tractors, 50 winnowing machines, 293 spraying motors and protective machines, and 232 pumps and machines.

Unfortunately, much of this capacity has not been utilized or has fallen into disrepair. It was not until 1970 that a Centre for training in the use of agricultural machinery, in Riyadh, was set up by the Ministry of Agriculture in co-operation with U.N. Special Fund.[2]

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1. A. Livingstone, Social Policy in Developing Countries, Routledge & Kegan Paul Ltd., London, 1969, p.23.

2. Annual Report, 1969, Research Department, Saudi Monetary Agency, p.47.

However, as has already been noted, the small size of individual farms in Saudi Arabia does not permit the efficient use of large machines designed for extensive farming operations. Until there is revision of land tenure practice the number of trained mechanics and other skilled maintenance personnel will remain relatively small. Therefore, consideration must be given to what extension service activities may be necessary to to improve existing agricultural practice.

Another agricultural problem in the Kingdom is the relatively low per capita income in agriculture. It is a consequence of the ratios at which the factors of production are combined.;

At the present time, the ratio of labour to the factors of arable land and capital is relatively large. The introduction and adoption of modern technology, which is a form of capital, has been low in relation to the use of labour. Thus, low returns to labour are to be expected.

Another factor is the shortage of alternative employment opportunities for unskilled agricultural labour which hinders moving labour from agriculture. Therefore, the industrialization of agriculture must be related to other diversifications of economic effort. This will involve not only the provision of training facilities for agriculture itself, but the provision of other kinds of training to meet the new skills needed in other sectors.

Fishing

Fishing is not an important activity in Saudi Arabia and remains largely undeveloped in spite of the presence of an abundance of commercial varieties of fish in both the Gulf and the Red Sea. Traditional methods and equipment are still used by most private operators.

As early as 1955, the Saudi Arabian Government tried to find ways of exploiting the marine resources of the Red Sea. With the assistance of the FAO and other agencies, several surveys were made of the position of theSaudi Arabian Fisheries, their potential for development, and the measures to be taken to promote their growth. These surveys, however, were not exhaustive and should be followed up by more systematic investigation.

Surveys of marine life indicate the presence of over 200 varieties of fish, both edible and inedible, in the waters around Saudi Arabia.

On the Arabian Gulf, the most important species are hamour, the spaiti, the chenad, the chiari, the safi, the kufeder, the hamam, and the farsh, as well as four separate species of shrimp.

On the Red Sea Coast, the following varieties are usually caught: salmani fidhy, abu nu'tah, sh'ur kas dawali, turbani, bahaar, abu kam, as well as several species of shark.

In 1952, an exdusive fishing concession was granted for 40 years to a Saudi firm by the Government of Saudi Arabia.

To take advantage of this concession a Saudi Company was established in 1953 twith the aim of undertaking a study of commercial, managerial, and technical difficulties.

Under the terms of tho monopoly granted to this company, no new firms are allowed to engage in fishing without first obtaining a sub-concession from this company and paying a royalty for such permission.

The existing Saudi Arabian fishermen are allowed to continue to fish provided they do not fish collectively. They do not form partnerships, and they do not use modern fishing equipment. In these circumstances it is difficult to see a vocational education need.

In 1962, a fishing and shrimping subconcession for the Eastern Province of Saudi Arabia was assigned by the originc! concessionaire to another Saudi Arabian Company. It is believed that this company is operating successfully at present and is apparently exporting most of its catch.

In 1966, approval was given by the Council of Ministers for the formation by the original concessionaire and sub-concessionaire, of a Saudi company to utilize the fishing concession. The agreement to form the company is to extend for 15 years and is automatically renewed unless

either party notifies the other of its desire to cancel the contract.

The Ministry is, at present, conducting negotiations with the Agricultural Bank and the Department of Co-operatives, at the Ministry of Labour, for setting up co-operative organizations to provide fishermen with the necessary appliances, and to assist them in the transportation, marketing and preservation of their products.

The Ministry has recently concluded an agreement with the University of Wales for evaluating the fishing resources in the regional waters of the Kingdom, in the Red Sea, and for training Saudis in various aspects of the fishing industry. A research centre is expected to be established soon, in Jedda, to be used as headquarters for foreign experts as well as for technicians of the Ministry of Agriculture and Water Affairs.[1]

From this summary, description of the current state of affairs, it is clear that current and immediate future manpower needs in skilled terms are not likely to demand much provision of formal training. But the potential food value of the fish resources points to the need for study of both social and economic factors at present inhibiting the growth of fishing as an industry.

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1. Annual Report, 1969, Research Department, Saudi Monetary Agency, p.47.

The Council of Ministers has approved the appointment of a fishing expert in the Ministry of Agriculture and Water Affairs to serve as liaison officer between the Ministry and the proposed company. His function will be to provide technical advice on the establishment of a fishing policy. In addition, the Council of Ministers has given approval to the Ministry of Agriculture and Water Affairs for conducting a study of fish resources in the coastal areas.

The outcomes of such investigation may reveal long-term training needs for which specific educational and training programmes may have to be developed.

CHAPTER V

LABOUR FORCE IN SAUDI ARABIA

One of the prerequisites of planning and execution is good statistical information. Manpower surveys and requirement projections are of little use unless the data upon which they are based is sufficiently accurate. Furthermore, educational planning is not possible without such data.

Educational statistics have to be analysed in the context of other data and therefore close co-ordination between the different statistical agencies is necessary; for example, demographic and economic information.

In Saudi Arabia, the employed labour force, meaning those persons who are in some way connected with the market rather than subsistence economy, is a small proportion of the population (see Table 12). There is a critical shortage of all categories of high-level manpower; professional and subprofessional, administrative and clerical, teachers, supervisors and senior craftsmen.

In this Chapter, an attempt is made to examine the total population of Saudi Arabia, to estimate the dimension of the educated Saudi labour force, and to project the potential labour force output from the schools, based on the 1965 Economic Report, and projections up to 1970. Related

to this data are the government provisions for public education and training facilities and the percentage of foreign labour force working in the country.

Estimate of Saudi Population and Labour Force

Men of working age, 15 to 65, numbered about 822,000 in 1962/3. Considering that some of these are incapacitated and also that some women among Bedouins and villagers worked, the number of persons in the labour force (including boys in schools), is estimated to be of the order of 800,000. The distribution by occupation and place is indicated in Table 13.

Table 13 shows a heavier proportion of workers in the population of the five largest cities compared with other settled places. This reflects the tendency for workers to move to cities and for a large proportion of foreign workers to come to Saudi Arabia without their families.

Labour force figures for the Beduins have been calculated by the same method employed for settled places. However, the concept of a "labour force" of males aged 15 to 65 loses meaning as one moves from a money economy to a subsistence economy in smaller villages and the desert. Subsistence activities involve women quite as much as men, and young members of the family as well are put to useful tasks at early ages.

About 15 per cent of the settled labour force (12 per cent of the total labour force) work for the Government. This group includes Beduin,

Table 12. Age Distribution of Population, Estimated Labour Force, and its Distribution by Place and Occupation in the Kingdom, 1963

Age Group	Five Cities	Other Settled Places	Water Holes	All Places
Percentage Age Distribution of Population [a]				
Under 10 yrs.	37.0	38.0	37.7	37.8
10 to 30	38.6	30.0	29.3	30.8
30 to 50	20.6	21.7	21.3	21.4
Over 50	7.8	10.3	11.7	10.0
Sum	100.0	100.0	100.0	100.0
Estimated Percentage Labour Force				
Estimated in Ages 15 to 65 per cent	51.2	49.2	48.8	49.2
Proportion of Males per cent	53.6	49.5	50.1	50.7
Estimated Labour Force (000)				
Population	.630	2,250	420	3,300
Estimated males of working age	137	546	103	822
Estimated Labour Force	170	530	100	800
Occupational Distribution				
Nomads	---	65	100	165
Settled[b]	170	465	---	635
In Private Establishments	59	108	---	167
In Government	43 b)	n.a.	---	96 c)
In Agriculture	2 b)	49 b)	---	200 d)
Not accounted for	56	---	---	172 d)
Of which in schools	---	---	---	25 e)

a) b) From Survey of Population, Building & Establishments.

c) Taken at 98 per cent of cadre and non-cadre positions budgeted (average of 1962/63 and 1963/4, plus one-third to allow for military personnel).

d) Estimated by Ali Rashid, "An Estimate of Agricultural Labour", (mimeographed 1964)

e) Entered in Grades 7 through 12 in 1963/64.

notably military personnel, counted at settled places and included in the labour force there. The Census shows 8,500 Government employees living in tents in Riyadh, presumably as members of the White Army.

More than a quarter of the labour force in settled places is identified by the Census as working in non-governmental activities. These were disproportionately located in the largest cities. The working force engaged in agriculture was about a third of the total at settled places.[1]

A third of the labour force in the five largest cities is not accounted for by occupation. Some of these were in schools. It should be possible to establish this number from the Ministry of Education records of school enrolment in grades 7 through 12. Workers outside establishments would include household servants, taxi drivers, street merchants, and others offering their services outside establishments

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= The absolute number of people in Saudi Arabia is uncertain. According to the Survey of Population, Building and Establishments, conducted by the Ministry of Finance, in 1962/63, the population was 3.3 million, a figure which may be used as the minimum for planning purposes. The population was estimated to be between 3 and 4 million by The Economic Institute of American University of Beirut. The estimate was made on the basis of a comparison of food availability to standards of consumption required to support life. Other estimates have suggested that the population ranges from 6 to 10 millions. This degree of variation puts all planning in hazard.

1. See Appendix IV, "Distribution of Places and Populations by Size of Place in the Kingdom, 1963".

Little information is available on the growth of the total labour force, but the growth of the cities undoubtedly has been accompanied by a shift of the proportion between the numbers engaged in rural and urban activities involving a movement from agriculture and grazing into urban type activities.

The table below shows the number of workers in government and non-governmental establishments in the major cities, during 1962/1963.

Table 13 Number of Workers in Establishments (in thousands)

	Government	Non-Governmental	Ratio
All places	96.0	167.2	1.7
Riyadh	19.0 a)	15.4	0.8
Mecca	9.8	14.4	1.5
Taif	2.7	4.5	1.7
Jeddah	9.5	18.2	1.9
Medinah	2.4	6.5	2.7
Five Cities	43.4	59.0	1.4
17 Cities	n.a.	38.0	n.a.
Other places	20.7	70.2	3.4

Source: MINFIN/SD Census of Establishments.

a) Include 8,500 living in tents (presumably national guardsmen).

However, an important growth factor is the extent to which the Saudi labour force is educated. In the decade 1954/1963, approximately 65,000 boys passed the primary certificate examination, according to records of the Ministry of Education. Although private schools have existed for many years, public education was not a significant force until the late 1940s.[1] Therefore, it is doubtful that certificates issued during the decade prior to 1954 could have been more than a small fraction of those issued in the period 1954/1963. When allowances are made for death and other forms of attrition, it is doubtful that more than 80,000 persons have achieved a primary school education. The number able to read and write is probably larger, since literacy can be acquired informally with less than six years of schooling.

The number of certificates is progressively less for higher levels of training. Over the past decade, 1954/1963, 12,000 boys graduated from intermediate schools with nine years of schooling, (19 per cent of the number receiving primary certificates) and 3,578 boys graduated from secondary schools with twelve years of schooling (5 per cent of the number receiving primary certificates).[2] These figures omit private schools and boys' military schools, but the omission would not be likely to

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1. In other words, after the establishment of the Ministry of Education in 1953.

2. Primary students graduating, from 1962/63-1968/69, totalled 101,433.
Intermediate students graduating, from 1962/63-1968/69, totalled 26,276.
Secondary students graduating, from 1962/63-1968/69, totalled 7,813.

add much to the total.

Educational Status of Saudi Labour Force[1]

Some enrolment figures from the Ministry of Education provide a basis for determining the number of Saudi workers possessing some schooling over the recent past and the likely growth of supply over the years. The secondary graduates in 1969/1970 are already enrolled in their seventh year of school. By studying the record of school attendance, we can determine how many boys have entered the labour force with different levels of schooling in the past seven years (1957/58-1964/65) and can make reasonable projection of the way in which they will be likely to enter in the future.

Table A in the appendix shows : (1) the past enrolment of boys in public schools by year of schooling, beginning with the school year 1957/58; (2) entrants to the labour force from each school year by boys having been in attendance for different periods of time, the difference between those enrolled at a stated level in one year, and the larger number enrolled in the next lower level the previous year; (3) the proportions surviving from one year to the next.

However, the record does not include boys enrolled in private

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1. The projection of labour force from the schools to 1970 was made by An Economic Report in Saudi Arabia, in 1965, (Central Planning Organization), pp.75-78.

schools and thus tends to understate both enrolment and entrants to the labour force with some schooling. Furthermore, it does not include boys and men attending night schools or adult education classes. Thus, it tends to understate the level of training achieved. As an addendum item, the table includes the record of those awarded primary and secondary certificates. Examination of those certificates are taken by those attending private schools, night schools, adult classes and studying on their own; therefore the number of certificates won each year exceeds the number enrolled in the sixth or twelfth grades in public school. The table does not take into account death or disability which keep some students from returning to schools each year at each level. Thus, the record overstates the number of entrants to the labour force. In the absence of details on men attending universities, university students have been treated as being in the labour force, but their numbers are small. However, none of these deficiencies in the record detract from its usefulness as a broad measure of the magnitude and the rate of growth of entrants to the labour force with some schooling.

The extension of the table in 1969/1970 has been made by projecting first the number of first graders entering each year and then the number surviving from year to year. The projection is intended to represent a continuation of present policies and programmes of the Ministry

of Education. The present school programme expands arithmetically by a more or less constant amount each year. This is consistent with the target of adding 100 new schools each year and is reflected in the more or less constant increase in total enrolment. To reflect the continuation of this kind of programme, first grade enrolment is projected as rising by a constant amount, 3,000 new first graders each year. This is the average number that first grade enrolment has increased from 1957/58 to 1964/65.

The Proportion of Students' Survival

One of the striking features of the record of school enrolment over the past few years has been the way in which the proportion of students surviving from one year to another has been improving. Thus, in 1963/1964, 82 per cent of the first grade class for the previous year returned, whereas only 65 per cent of the first grade class in 1957/58 returned in 1958/59. A similar improvement in survival ratios is evident in other years (see Appendix, Table A, No.2).

Of course, as the survival rates improve, in the early grades the weaker students tend to drop out later; even so, the record of cumulative survival rates from first grade to second, third, fourth, and fifth grades shows an improvement. Forty per cent of the entering class

of first graders in 1957/1958, survived to enter the seventh grade in 1963/64 and if the surviving ratios characterizing each class in 1963/1964, were to continue unchanged, 51 per cent of first graders entering in 1964/1965, would survive to the seventh grade.

This tendency for students to survive can be expected to continue to improve. For one thing, many of the earlier drop-outs after only a few years of schooling were probably youths who had to go to work after they learned to read. As the average age of first graders declines, we can expect that more of them will continue on to higher grades. We can also expect that as the supply of literate workers increases, the premium solely on being able to read and write will decline and this will provide an incentive for students to go to school longer. Consequently, we must project a continuation of rising survival ratios. If the projected ratios for 1969/1970 continued unchanged, 60 per cent of the first graders entering in 1969/1970 would reach seventh grade.

Of the first graders who entered in 1957/1958, 12 per cent are projected as surviving to the twelfth grade. If the survival ratios employed for the projection in 1969/1970 hold unchanged for 12 years, 19 per cent of the first graders entering that year will survive to the twelfth grade.

However, the improvement of survival ratios is important because it tends to keep a large proportion of those entering first grade in school

a longer period of time and therefore increases the demand for seats in higher grades as time goes on.

Better survival ratios also have the effect of holding down the number of entrants into the working force with only a few years of schooling. A bulge in first graders entering in 1960/1961 was reflected in an extraordinarily large number of drop-outs the next year. For the future, the effect of the gradually improving survival ratios and the constantly growing number of first graders entering schools will be to stabilize the number of entrants to the labour force with only one to five years of schooling at about 17,000. This prospect is a desirable one. It would even be better if survival ratios improved enough to make the number of entrants decline.

Students Entering the Labour Force

As boys have stayed longer in schools, the number entering the labour force with six to eight years of attendance at school has risen, and promises to rise more rapidly than all entrants with more schooling. Whereas all entrants with some schooling has been growing eight per cent p.a. (1959/1962 and 1964/1965), entrants with six to eight years of attendance grew 22 per cent p.a. (from the low point in 1960/1961). The growth will continue with a bulge in 1967/1968, and 1968/1969, when the exceptionally large number of first graders who entered in 1960/61, and 1961/62 finish

primary school and enter the working force.

At the end of twelve years under review, 206,480 men in the labour force will have attended school, and the prospect is for this part of the labour force to grow considerably faster than the total labour force. The rise from 1962/1963 (after the 1960/1961 and 1961/1962 bulges) to 1969/1970, is projected at an average of 9.5 per cent rate of growth.

Not only is the number of workers with some schooling increasing, but the increasing number of boys staying longer in school tends to reduce the rate of growth of the labour force. In 1964/1965, 28,800 boys were in their seventh to twelfth years in school, compared with about 6,000 in 1957/1958. If population is rising two per cent p.a. and men of working age are also increasing at the same rate, the annual addition to men of working age would be of the order of 16,000. More than 3,000 annually of these will remain in school to increase public enrolment of boys in grades seven through twelve. Over the next five years, the average annual increase in enrolment in grades seven through twelve will be even larger (approximately 8,000) as more boys stay in school longer.

The most rapidly growing group of new workers has been boys with nine to eleven years of school attendance. From 1960/61, to 1964/65, their numbers grew on average of 46 per cent p.a., a rate of growth which

more than doubles the number of entrants every two years. The growth showed signs of slowing down. But the large classes who entered the 1960/61 and 1961/62 first grades, and completed nine years of school (Intermediate School) resulted in a new wave of growth beginning in 1969/1970.

Those attending twelfth grade (most of whom obtain secondary certificates) have been growing a little more slowly than those with nine to eleven years of attendance (Appendix A, No.3). These are all students entering first grade before the period covered by Table A except for the class of 1969/1970, which entered in 1957/58. The slower rate of growth in this group probably reflects a more slowly rising curve of first grades before the period covered by An Economic Report, December, 1965, Central Planning Organization, Saudi Arabia.

From 1959/1960, a low point, to 1964/1965, the growth rate of this group averaged 26 per cent p.a. This growth continued at about this rate until 1967/1968, is expected to show some acceleration for two years, and then possibly will level off in 1969/1970 (figures not yet available).

In the seven years 1958/1959 through 1964/1965, 138,680 persons entered the working force having had some schooling. While 77 per cent of these had less than six years of formal schooling, about 65,000 students passed primary school certificates in these years. A good many of those

dropping out of primary school studied at night in adult classes or on their own to gain a certificate.

The labour force is also being increasingly made up of men who have at least six years of schooling.

These trends promise to continue on present policies and programmes. Within the five years 1965/1970, 147,800 men will enter the working force with some schooling and the number with less than six years attendance will be a smaller proportion - 57 per cent - of the total. Men with six years or more schooling will number about 63,700, approximately twice the number entering with those qualifications in the past seven years. The number entering after having completed Intermediate School (nine years' attendance), 21,600 in the five years, 1965/1970, will equal about 70 per cent of all those entering the labour force in the previous seven years with six or more years of schooling.[1]

The existing skilled Saudi manpower and the proportion of an increase can be seen through the number of cadre and non-cadre positions budgeted for Saudi employees from 1958/59 to 1964/65, as is shown in the following table:

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1. Facts and figures of educational status of labour force are elaborated in detail in the Appendices, Nos. I, II, III.

Table 14

No. of Positions Budgeted by Grade - 1958/59, 1964-65[1]

Classification	1958/59	1959/60.	1960/61	1961/62	1962/63	1963/64	1964/65	%
Cadre and non-cadre	41,868	43,884	49,898	56,908	67,255	80,637	92,531	121
Non-cadre	19,701	20,908	23,078	25,852	30,503	36,192	39,016	98
Grade III	13,798	14,583	15,525	16,726	19,659	21,907	22,544	63
Grade II	5,081	5,449	6,614	8,004	9,546	12,596	14,403	183
Grade I	882	876	939	1,122	1,298	1,689	2,069	152
Cadre	22,167	22,976	26,820	31,056	36,752	44,445	53,515	142
Grade 9	9,444	9,684	10,160	10,117	10,077	10,144	10,722	13
Grade 8	6,015	6,117	7,577	9,694	12,660	16,169	19,824	229
Grade 7	2,420	506	3,191	3,922	4,874	6,661	8,532	252
Grade 6	1,284	1,312	1,744	2,157	2,885	3,793	4,958	286
Grade 5[2]	1,249	1,333	1,751	2,088	2,214	3,475	4,579	266
Grade 4	1,048	1,216	1,398	1,706	2,485	2,527	3,110	196
Grade 3	482	459	596	794	922	964	1,020	111
Grade 2R	139	203	303	423	462	520	566	307
Grade 2P	-	-	-	25	34	41	54	-
One B	-	-	1	1	17	21	24	-
One A	64	59	72	90	81	89	90	40

1. Source: Ministry of Finance, Economics & Budget Department. Excludes Defense Ministry.
2. University Graduate Cadre.

By 1964/65, Grade III, non-cadre employees budgeted for had increased 63 per cent over 1958/59, and Grade 9 cadre numbers by 13 per cent. But cadre Grade 8 and above were budgeted to rise more than the 121 per cent average, for all positions, as Table 14 shows.

The figure shows the preponderance of lower grade workers engaged in government employment. For example, 75 per cent of positions budgeted for 1964/65 were Grades 8 or 9 or non-cadre positions - all of which could be filled by men with less than a Higher Secondary School Certificate qualification. Most of the rest, 15 per cent of the total, were Grades 6 and 7, which require a Higher Secondary School education.

As the Government has expanded, it appears that little difficulty has been encountered on the whole in filling new jobs at the middle and lower Grades. In the higher grade jobs, however, the Government has found it difficult to recruit suitable qualified employees (see Table 25, the number of students graduated from Riyadh University every year).

An Estimate of Foreign Labour Force[1]

The expansion of public and private economic activity in the Kingdom has put considerable pressure on the labour market. As a result, Saudi Arabia has been forced to rely on the import of foreign nationals to

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1. Economic Report, op. cit., pp.8-9.

fill a significant percentage of professional, technical, skilled and semi-skilled positions.

Data on the number of foreigners arriving in Saudi Arabia by occupation and the residence permits issued to them (including renewals for the years 1959 through 1964) are presented below:

Table 15

	1959	1960	1961	1962	1963	1964 [1]
		(in thousands)				(6 mths.)
Residence Permits Issued	74.8	70.7	80.6	89.6	101.5	78.3
Arrivals of Foreigners	47.2	63.6	70.2	56.7	77.0	28.6
Buildings and Construction	22.7	30.6	30.2	24.5	33.2	7.8
Education	2.5	3.0	3.1	3.9	4.9	1.5
Transport & Communications	1.4	1.4	2.1	2.0	2.6	1.5
Medical & Related Activities	0.5	0.7	0.7	1.2	1.0	0.4
Other Professional Activities	0.7	1.0	1.3	0.9	2.0	1.0
Industrial Workers	0.9	0.9	0.8	0.6	0.7	0.4
Administrators & Clerks	0.7	0.9	0.8	0.9	0.9	0.4
Agriculture & Fishing	0.4	0.7	0.7	0.4	0.3	0.1
Services	0.4	0.4	0.4	0.3	0.5	0.3
Trade	0.2	0.5	0.8	0.7	0.6	0.5
Other	0.6	1.2	1.6	1.2	5.6	7.4
Non Specified	15.7	20.8	25.8	19.5	24.0	7.4
Rounding Errors	-0.5	-1.5	-1.9	-0.6	-0.7	0.1

1. Source: Ministry of Finance, Economic & Budget Dept., Excludes Defense Ministry.

Residence permits are issued to all foreigners staying in the country more than a few days. Foreign diplomats and women and children are included, while pilgrims are excluded.

In comparison with the number of permits issued, the Census records 38,000 non-Saudi workers in 1962/1963 (not including governmental workers in 22 cities).

It is difficult to assess the significance of figures given for the first half of 1964. There may be a seasonal pattern in arrivals of foreigners and applications for residence permits. To assess those figures we would need to know how the first six months of 1964 compared with the corresponding period of three or four earlier years.

Growth in number of residence permits issued reached a low in 1960, when construction activity was a cyclical low, and has since grown.

However, the rate of expansion over the years 1960/1963 averaged 13% per annum. If we take the expansion from the average of the first two years to the last two (full) years, the number of permits grew by 7.5% p.a.

It should be observed that the figures on arrivals measure persons entering into Saudi Arabia, not staying there. Entrance of transportation and communication workers, for example, has been high,

undoubtedly because every non-Saudi truck driver is counted each time he enters the country, which he may do several times a year. Teachers will be counted each time they enter at the beginning of the school year and when they return from taking a holiday. Transient businessmen are included in the total. Nevertheless, the data provides an indication of the occupation sectors in which foreigners are employed and also provide an idea of trends in growth.

Over the five years 1959/1963, it appears that the number of foreign workers arriving has increased. Growth from average 1959/1960 to average 1962/1963, namely seven per cent per annum, is likely to represent the trend and is close to growth in residence permits measured in the same way.

The entrance of construction workers at a rate of nearly twice the average for all foreigners is an indication of the strong growth in construction in the Kingdom. Entrance of workers in the medical and related fields, e.g. pharmacy, have about doubled over the period, and other professional workers, except educationists, have also been growing rapidly in comparison with the whole group. The number of service workers, administrators and clerks, and those engaged in agriculture and fishing has remained relatively stable. Furthermore, the

influx of industrial workers appears to be subsiding.

However, growth in the foreign working force appears to be most rapid in the higher skills which will take some time for Saudis to acquire, and to a lesser extent in other skills which the Saudis can acquire with a modest amount of training, (see Table 14 and Table 29: The Shortage of Highly Skilled Saudi Manpower).

In almost all cases, the chief bottle-neck in the Kingdom's social and economic development is the scarcity of technical manpower of all levels.

According to the most recent statistics issued by the Ministry of Labour and Social Affairs, over 51 per cent of workers throughout the Kingdom are of foreign nationality.

The following table shows Saudi and non-Saudi workers in various institutions, in five major cities and Eastern Region, excluding al-Hasa, in 1968:[1]

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1. The survey covered all establishments other than those belonging to the Government and oil companies. Agricultural holdings other than poultry farms were excluded and so were all the vendors, hawkers, pavement sellers and taxi drivers, etc., who do not have fixed places of business.

Table 16

Cities	Establishments	Saudis	Non-Saudis	Total
Riyadh	8,873	9,370	12,115	21,488
Jeddah	8,446	9,185	16,206	25,391
Mecca	6,665	8,039	6,807	14,846
Medina	3,232	4,198	2,365	6,563
Ta'if	3,382	3,405	3,343	6,748
Eastern Region Excl. Al-Hasa	4,716	7,294	6,440	13,734
	35,314	41,491	47,276	88,767

In technical and scientific vocations, more than two-thirds of workers are of foreign nationality, and more than 50 per cent of the clerical jobs in Jeddah are held by foreigners and the same is true in commerce and services.

The following table shows the number of Saudis and non-Saudis in respective vocations in both Riyadh and Jeddah, the most populous cities in the Kingdom:[1]

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1. Ministry of Labour and Social Affairs, Research & Statistics Department, 1968

Table 17

	Riyadh		Jeddah	
	Saudis	non-Saudis	Saudis	non-Saudis
Technical & Scientific V	114	493	169	1,067
Administrative	166	184	378	354
Clerical	540	516	920	1,263
Commerce	3,791	3,326	3,008	4,088
Services	780	2,406	1,257	3,022
Transport, Storage & Warehouses	3,966	5,134	3,445	6,400
Total	9,365	12,055	9,177	16,194

This data provides an important indicator of the sectors in which educational effort needs to be concentrated if the Saudi Kingdom is to become independent of foreign skilled manpower, and can also supply some indication of the period which must elapse before a significant change in the balance between local and foreign manpower will move favourably in Saudi interests.

Public Education and the Government's Provisions for Training

In recent years, the Saudi Government has taken major steps in an effort to narrow the gap between the supply and demand for Saudi manpower. For instance, budget allocations for education increased from SR 399 million in 1966/67 to SR 558 million in 1969/70.

The table below shows the expenditure on education in relation to total government expenditure, and in relation to national income.

Public expenditure on education in relation to total government expenditure:

	1962	1963	1964	1965	1966	1967
Percentage	8.2	9.4	10.1	9.8	9.1	7.9

Public expenditure on education in relation to national income:

	1962	1963	1964	1965	1966	1967
Percentage	2.5	3.1	3.3	3.4	3.6	...

During the period from 1960 to 1965 the number of boys enrolled in schools and institutes under the Ministry of Education doubled from 128,308 to 257,762, and the number of girls enrolled in schools and institutes of the General Presidency of Girls' Schools increased by ten times from 5,200 to 52,886; enrolment in religious schools and institutes attached to the General Administration of Institutes and Colleges increased from 1,645 to 4,678; the number of college students within the Kingdom increased from 1,306 to 3,088; the number of students sent abroad on scholarships reached 1,800 in 1965, in addition to 300 students sent abroad during that year. In 1969/70 the total number of Saudi students in the primary schools was 371,031 (F 110,039), in the intermediate schools 50,144 (F 4,255), in the secondary schools 12,199 (F 1,232),

in the universities and colleges 5,663 (F 313), and the students abroad 1,789.

In addition, several vocational training centres were established by the Ministry of Labour and Social Affairs. The first training centre was opened in 1963. In 1966 other centres were established in Jeddah, Dammam and Qaseem. The I.L.O. has furnished the centre with experts and equipment. The following table shows the number of experts, instructors and assistant instructors at four training centres:

Table 18

Centre	Experts	Saudi Instructors	Saudi Assistant Instructors
Riyadh	12	21	19
Jeddah	5	3	4
Dammam	6	2	3
Qaseem	7	2	4
Total:	30	28	30

The Institute of Public Administration was established in 1960, (Royal Decree, No.93, 24/10/1380 A.H.) to provide training for government employees, and training programmes were developed by other ministries such as the W.H.O. Aided Institutes of Sanitarians in Riyadh,

Hufuf and Taif, to provide the hospitals, municipalities and other medical centres with health assistance. Total number of graduates from the three health institutes in Riyadh, Jedda and Safwa were 143 in 1968/69, compared with 82 in 1967/68. The Ministry of Interior has established the centre for training Saudi staff to work in the passport department, and a Social Workers' Institute was established in Riyadh by the Ministry of Labour and Social Affairs to provide the Community Development Centres with Saudi social workers, (see table 34).

Although these educational and training programmes have made some contribution to the reduction of shortage of staff, they have not, and are not likely to, produce satisfactory long-term solutions to the problems.

Facilities and programmes have been developed largely to fill immediate short-term needs. Too little attention has been given to designing the sequential system of education to prepare Saudi people properly for the next step in the educational or work process. In addition, little valid information has been dev eloped related to quantitative and qualitative manpower needs by occupational groups. Therefore, the education or training of particular persons often has not been related to particular skill requirements.

The following table shows the number of technicians at the four training centres, presently under training:-

Table 19

Sections	No. of Graduates until 14.10.67	V.T.C. Riyadh Trainees at present	V.T.C. Jeddah Trainees at present	V.T.C. Dammam Trainees at present	V.T.C. Qaseem Trainees at present
Automotive Repair & Maintenance	35	44	16	--	19
Fitting, Lathe, Turning, Gridding and Milling	29	25	16	16	26
Welding & Blacksmithing	26	21	--	27	--
Sheet Metal Works	5	12	--	--	--
Electric Wiring & Motor Winding	65	55	25	16	20
Building Trades Stone Masonary, Bricklaying, Tiling & Plastering	74	55	16	14	--
Carpentry, Joinery, Concrete Shuttering and Building Carpentry	31	22	14	15	16
Plumbing & Sanitary Fitting	18	16	--	12	--
Printing	12	31	--	--	--
Painting	--	6	--	--	--
Total:	295	287	87	100	81

The various centres were opened in the following order: Riyadh (1963), Jeddah (1966), Dammam (1966), Qaseem (1967).

CHAPTER VI

THE EDUCATION SYSTEM: ITS QUANTITATIVE AND QUALITATIVE CHARACTER

An unadjusted estimate of first-level school enrolment ratio in Saudi Arabia is given as 15 per cent.[1] The bulk of primary school teachers are unqualified which means that they have had practically no training or are inadequately trained teachers. Primary school teachers who have completed secondary school education or its equivalent are pitifully few. In addition, over fifty per cent of teachers are of foreign nationality.

An unadjusted estimate of second-level school enrolment ratio is given as about 5 per cent. About 90 per cent of the enrolment is engaged in academic education. The technical and vocational schools account for a very small proportion of enrolment.

Higher education in Saudi Arabia is available for only a tiny fraction of the output of the secondary level of education.

It is the aim of this Chapter to elaborate on the relative stages of development of these three levels of education, namely Primary, Secondary

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1. The unadjusted school enrolment ratio is a percentage ratio obtained by relating the enrolment at a given level of education to the estimated population for the age group which roughly corresponds to that level, i.e. 5-14 years for the first, 15-19 for the second, and 5-19 for both levels combined.

   Adjusted rates of total school enrolment within the age groups 6 to 11 and 7 to 12 in relation to the potential school population at the very same age (Unesco Statistical Yearbook, 1969, p.70).

and Higher Education; to shed light on the supply of teachers and on the efforts made for the provision of adult education to meet the needs of middle and high level local manpower in the Kingdom of Saudi Arabia.

Primary Education

Prior to the establishment of the Ministry of Education in 1953, primary schools were almost entirely confined to the urban areas. Since 1953, they have been extended to the villages and countryside. The number of primary schools in 1952 was 306, with an enrolment of 39,920 pupils. Thirteen years later, the number of schools had increased to 1,114 with an enrolment of 193,140 pupils.

The table below shows the rate of increase of primary schools for boys within the ten years, from 1960/61 to 1969/70.

Table 20

Academic Years	Students	Teachers	Schools
1960/61	104,203	4,940	712
61/62	122,905	6,513	834
62/63	139,328	7,568	938
63/64	162,782	8,326	1,061
64/65	179,325	7,838[1]	1,109
65/66	198,987	8,790	1,158
66/67	219,503	9,948	1,218
67/68	242,499	10,898	1,278
68/69	261,221	12,722	1,366
69/70	277,364	12,851	1,446

1. Excluding administrative personnel teaching in primary classes.

The Ministry's adoption of a five-year plan in 1960 to increase the number of pupils entering primary schools by 10,000 pupils per year, marked the beginning of more systematic organization of primary education in the Kingdom. In the same year (1960), primary education was officially extended to the girls. Primary education for girls began with 15 schools and an enrolment of 5,180 pupils. In 1965/66, the number of girls' primary schools was increased to 160 with an enrolment of 50,883 pupils.

The effect of a five-year plan (1960/65) can be seen in the steady increase in numbers of boys enrolled in public schools (in thousands):

	1960/61	1961/62	1962/63	1963/64	1964/65
Number of boys enrolled:	85.3	116.9	138.2	160.3	181.9
Increased from previous year: %	—	21.6	21.3	22.1	21.6

The increase of boys enrolled in public schools at the rate of approximately 20,000 a year by 1969/70 should result in 290,000 boys being enrolled, compared with 182,000 in 1965, and compared with an estimated 450,000 boys of school age in the country.[1]

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1. Half of the 27 per cent of the total population indicated by the age distribution in the Sensus (Table 12) is of school age. If the census understates the total population, or if the population is growing, the estimate of boys of school age is too low.

It is estimated that by 1971 the Kingdom will have nearly 200,000 youths, approximately one-quarter of the labour force, under 10 years of age with less than primary education. A significant percentage of this group will be likely to remain a hard core of the labour force for the next several decades.[1]

However, in spite of the promising number of pupils attending primary schools every year all over the country, less than 40 per cent of the boys and 15 per cent of the girls who register in the first year primary reach the 6th year. Saudi Arabia is not unique in this.[2]

Economic difficulties and low-quality education are the two major causes of wastage. The former is not a significant problem in Saudi Arabia because education in the country is free at all levels. Furthermore, the Government provides monthly allowances to the students in the vocational, technical and primary teacher training schools, the colleges of education and Sharia and the faculty of science in the university.

The low quality of instruction and poor syllabuses are weaknesses of the primary level where it is not uncommon for the teacher to have had no more than primary education himself. Low-quality teaching leads to drop-outs due to boredom and frustration. In addition, the syllabuses often have little relevance to the lives, present or future, of the mass of the people.

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1. Economic Report, op. cit., pp.119-120.
2. A Survey of Educational Progress in the Arab States, Unesco Conference of the Arab Ministers of Education, Tripoli, Libya, 1965, A. Al-Koussey, p.64.

Nearly two thirds of the period, at the primary level, are reserved for religion and Arabic and one third for the rest of the subjects. The religious texts are overloaded with abstract ideas and theological conceptions based on Salafiah tracts which are far beyond the children's comprehension, and the certain parts of the Kuran have to be learned by heart. The teaching in general leans heavily on rote learning and explanation and discussion are at a minimum. Furthermore, the primary syllabuses are largely directed to preparation for admission to the secondary school even though only a small minority of students are able to receive education at that level.

The problem of drop-outs needs investigation, in the meantime steps should be taken to improve the quality of the teachers and to make the syllabuses more relevant to the educational needs. Some contribution to the problem might be made by providing incentives to encourage drop-outs to undertake vocational educational programmes. It is also important to consider the possibility of compulsory education for all Saudi children of primary school age. The rural primary school must be made the centre of a rural renaissance. To bring this about it is desirable that the approach advocated by the FAO should be adopted: "What is needed in rural areas generally at the primary and usually at the secondary levels, is effective general education. General education is made effective not by teaching

agriculture as such but rather by drawing upon agriculture and the rural environment for examples to make teaching of reading, mathematics, botany, chemistry etc., meaningful and interesting to rural students. A good general education in primary and secondary school will inculcate in every student an appreciation of the importance of agriculture in the economy of the country. This does not preclude the development of training projects beyond the primary level but these should be mainly the responsibility of the Ministry of Agriculture which is able to provide the professional guidance."[1] Steps should also be taken to provide intermediate level education for all primary school leavers at the earliest opportunity to avoid the wastage of potential that selective examinations result in when there is a shortage of educational opportunity for all at the end of the primary stage.

However, it has to be realized that the traditional habits of the Bedouin elements of the population will prevent full compulsory education being applicable for some time. In the urban communities, this should be possible but in the nomadic communities, difficulties will arise in the initial stage of pursuing such a policy. This should be recognized in the making of legislation and an element of permissiveness should be provided, subject to amendment as and when the Minister may decide. In the meantime, pilot projects might be initiated to provide an element of peripatetic education for the Bedouin communities.

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1. Report of Unesco Educational Planning Mission for Tanganyika, October 1962, Paris, 31 January 1963, p.7.

The table below shows the number of primary schools' pupils who obtained Primary School Certificates from 1960 to 1969.

Table 21

Year	No. of Entrants for P.S.C. Exam	Passed
1960	8,722	6,734
1961	10,995	8,027
1962	13,539	10,645
1963	15,103	11,534
1964	16,605	11,623
1965	19,565	12,006
1966	23,703	13,238
1967	28,793	20,073
1968	28,569	14,849
1969	32,058	18,114
Total	197,652	126,839

This rate of growth is impressive, but it is woefully inadequate in terms of the educational needs of the country.

A broad base of primary education is urgently required if the education pyramid is to ensure enough good people at middle and high level. A strong case could be made for a "crash programme", to extend and improve primary education for boys and girls during the next five years or so.

Distribution of Primary School Leavers into Post-Primary Education

The Ministry of Education has pursued a policy of directing the post-primary schools graduates to the various levels of lower secondary

education. This policy was implemented within the five-year plan ended in 1964/65. The distribution was as follows:

25% in the lower secondary schools.

25% in the teacher training schools

10% in the industrial, commercial and agricultural schools.

The rest of the output was assumed to be absorbed into the general labour force. However, this distribution has not been rigidly pursued. For instance, in 1962/63 the number of students who had obtained primary certificates was 11,534. Those who were admitted to the lower secondary schools in the following academic year (1963/64) were 5,970, namely 51.7%, and in the teacher training and vocational schools 4,671, namely 40.4%. This indicates that 92.1% of primary school leavers were admitted to lower secondary education of one kind or another.

In the academic year 1963/64, the number of students who had obtained primary certificates was 11,623 and in the following academic year 1964/65, 6,179 pupils, namely 53.1% entered Lower Secondary Schools, and 5,179 pupils, namely 44.5% were admitted to the Teachers Training and Vocational Schools. In other words, 97.6% of the total output of the primary school graduates were admitted to post-primary education both general and vocational.

The figures in these two academic years 1962/63 and 1963/64 show that the lower secondary schools had absorbed over 90% of primary schools' out-puts.

In 1963/64 and 1964/65, Upper Secondary Schools absorbed 60.2% and 56.5% respectively of Lower Secondary graduates.

Obviously, the number of students being absorbed by both Lower and Upper Secondary Schools every year would have quantitatively been a remarkable achievement had the proportion of drop-outs not become a serious factor. In 1963/64, for example, the distribution of pupils in each year of the complete six-year secondary school course was:

1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
5,062	3,430	2,611	1,273	920	908

The whole output for one year of pupils who had completed the secondary education course was only 908 out of 5,062. Thus, the number of those who had a full primary and secondary schooling, and should thus ultimately be available for executive posts and for higher and middle-level specialist occupations falls far short of the numbers required to provide the skilled manpower needed for accelerated economic growth.

In particular, the wastage results in the middle-level skilled manpower needs of the Kingdom continually suffering. At the present time, because of the lack of in-service training facilities and other modes of supplementing the education of people who have not completed

formal studies, this wastage cannot be ameliorated.

Secondary Education

An increase in any level or branch of education tends to have a multiplying effect on the whole structure of education. An increase in the number of primary school pupils puts pressure on the secondary school facilities, and increases in the facilities available for secondary education result in more persons being qualified for admission to higher education. Where the education is linked to an elitist structured society, there is always pressure for expansion of facilities from those who wish to improve their own status.

The small number of Saudi students in higher education is mainly due to the small proportion of Upper Secondary School graduates every year.

The following table shows the number of students who obtained Upper Secondary School Leaving Certificates, within the ten years, from 1959/60 to 1968/69:

Table 22

Academic Years	Science	Arts	Total
1959/60	191	127	318
60/61	351	160	511
61/62	336	138	474
62/63	477	206	683
63/64	516	317	833
64/65	460	353	813
65/66	584	496	1,080
66/67	592	606	1,198
67/68	749	707	1,456
68/69	1,012	738	1,750

Admittedly, Upper Secondary graduates in Saudi Arabia are a class of persons of national importance, because from this class must come the candidates to fill the higher appointments in government, in education, in industry, in business and the professions.

The demand for Upper Secondary graduates is keen and every Ministry as well as private interests are concerned with obtaining a sufficient quota to satisfy their manpower requirements.

An example of this kind of situation is exhibited by the initial launching of the College of Engineering in Riyadh. When the agreement was signed between the Saudi Arabian Government and UNESCO in 1962, the five-year course leading to the award of a B.Sc. degree, it was

assumed that there would be a student intake of 120 a year. In fact, only 17 students were forthcoming when the College was opened.

In 1961/62, in fact, the Upper Secondary School output totalled approximately 474, of whom 150 went abroad on scholarships and a few on private funds, 200 were admitted as students to Riyadh University. Of the remainder, a few went into training for primary teaching, some directly to wage earning, and only 17 to engineering education.

The number of graduates from the Upper Secondary Schools is likely to rise to only a modest extent in the immediate future, unless an absolute priority is given to secondary education over all other highly urgent educational needs. Apart from increasing the educational facilities, investigation and research work must be conducted to find out the causes of the primary school drop-outs and to discover ways of reducing it.

"It is apparent that secondary schools play a particularly crucial role in the development of the educational system itself. Their intermediate position obliges them to perform the dual function of providing a terminal education for a significant proportion of their students while acting as feeders to higher institutions.

Frequently they tend to be the most constricted segment of educational systems in the sense that it is easier for students to enter higher institutions from them than it is to gain access to them from the primary school. They

continue, therefore, as a bottleneck that influences the rate of development of higher education while they also place constraints upon primary school growth since they are usually the major sources of teaching personnel at lower levels; the educational enterprise in most developing areas will be increasingly the major consumer of its own post-primary products."[1]

For many years to come, the majority of Saudi personnel concerned with development work of every type, will have graduated from secondary schools rather than from universities. The need to replace expatriate teachers by local Saudi teachers will make a big call on the supply of secondary school graduates, and many of them will need higher education to which secondary school education is the only means of access. Therefore, more thought must be given to the expansion of secondary education, both general and vocational.

Attempts must be made to bring the secondary school system gradually more into harmony with the social and economic needs of the mid-twentieth century, to emphasize the scientific and practical skills which were until recently severely neglected in the education programme.

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1. Educational Problems in developing Countries, Symposium Papers edited by the Centre for the Study of Education in Changing Societies, the Hague, Wolters-Noordhoff, 1969. (Secondary Education: Objectives and Differentiation, by Prof. P.J. Foster, p.72).

The 1,750 students who graduated in 1968/69 from the Upper Secondary Schools, were distributed into the various higher educational institutions, namely the University of Riyadh, the Colleges under the Ministry of Education, College of Petroleum and Minerals, in Dhahran, King Abdul Aziz University in Jedda, the Medical School in Riyadh, and Defence, Police and Aviation training.

Few of them by force of circumstances entered immediately into practical fields of life. Therefore it is hardly likely to conceive an adequate annual output from Upper Secondary Schools to provide Saudi Arabia, in the present stage of its industrialization and development ofsocial services with an adequate number of personnel both for high and middle level manpower needs. However, the fullest possible use has to be made of the existing output of secondary schools as quickly as possible. Clearly, such measures can only affect a radical transformation in the manpower situation over an extended period of years, and in the meantime, domestic supplies of skilled manpower must be augmented by foreign personnel if large development projects are to be undertaken.

The increase in enrolment at the Lower and Upper Secondary Schools within ten years from 1960/61-1969/70 is shown respectively below:

	1960/61	1961/62	1962/63	1963/64	1964/65
Lower	5,752	7,395	9,236	11,555	14,341
Upper	1,962	2,280	2,897	3,286	3,689

	1965/66	1966/67	1967/68	1968/69	1969/70
Lower	18,730	21,297	29,556	32,561	38,028
Upper	3,837	4,573	5,834	6,940	8,243

Impressive though these figures are, they are a long way from satisfying the demand for educated people.

Technical Education

By 1958/59, the Ministry of Education had established five Industrial Schools with 641 pupils. The number was increased to 8 in 1960/61, with 1,259 pupils. In 1959/60, five Agricultural Schools were added, with 198 pupils.

The primary certificate is a pre-requisite for entering these schools. In 1965/66, a new system was introduced, the Lower Secondary Certificate becoming the pre-requisite for admission. In the same year there were 1,530 pupils in the Industrial Schools, and 677 in the Commercial Schools, and 506 in Agricultural Schools. In 1967/68, the total number of pupils in these three types of vocational schools was 877. The decrease in numbers was due to the gradual elimination of the old schools which were being replaced by the new ones of higher levels which accept only the outputs of the Lower Secondary schools instead of accepting products of the primary system. The Royal Institute of Technology was officially opened in Riyadh in 1968/69, with an enrolment of 317 students graduated from the Intermediate Level (3 years after primary). The growth of this Institute and the development of technical education as a whole is largely dependent upon the recognition of the need for planning.

Obviously, the number of pupils in technical schools, since they were introduced into the Kingdom, has been very small. This is largely due to the tendency of most pupils - influenced by their parents' attitudes - to prefer academic education to any other type. Thus, the trend at the post primary school level has been towards an increasing demand for academic and university studies. The result is that the educational ladder is thrown out of balance in relation to skilled manpower needs, and opportunities for vocations, other than office employment, are neglected. The major contributing factor to the situation is that Saudi parents look upon education as a means by which "manual work" can be avoided. Therefore this situation calls not merely for further educational provision, but also for the education of the adult community to appreciate the alternative career prospects. It also means that incentives and rewards for vocational and technical skills must compare favourably with the incentives and awards in other careers. In addition, "adaptation to the requirements of economic and social progress calls above all for a better balance between the different types of education. Vocational and technical education needs to be strengthened on the basis of the most accurate possible analysis and forecasting of skilled manpower requirements, which requirements themselves depend on the major government policy decisions concerning economic and technological development.

Although vocational and technical education is essentially intended to serve development, it must nevertheless be firmly rooted in a general education in which mathematics and science in particular have their due place. Not only must it be broad and general enough to enable pupils to adapt themselves later to new techniques, but it must also ensure an appreciation of the role and status of technical competence in the developing of the resources of the country. This will call for far-reaching changes in the educational system - it must cease to be regarded as second-rate type of education, to which pupils who are not particularly successful in the academic side are channelled."[1]

At present, vocational education is regarded as appropriate for relatively unsuccessful pupils in Saudi Arabia. One reason for this is that the apprenticeship system is still in vogue; industrial development is still in its infancy; and most important, perhaps, the regular secondary certificate leads to government white-collar positions of security and prestige, and thus is regarded as a way of release from manual occupations which are regarded as inferior to sedentary activities. This prejudice is a basic psychological hindrance to the development of a functioning vocational education which will attract youth.

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1. UNESCO Chronicle, March 1970, Vol.XVI, No.3, p.108. (The text of the address given by the Director-General of Unesco at the opening session of the Third Regional Conference of Ministers of Education and Ministers responsible for economic planning in the Arab States), Morocco, from 12th to 20th January, 1970.)

The Ministry's decision in 1965/66 to accept pupils from the outputs of Lower Secondary Levels for technical education was sensible and wise. This decision to direct pupils into preliminary specialization is based on the assumption that in the early teens the differentiation of children's abilities becomes increasingly wide. Such elements of differentiation offer some possibility of discovering the abilities and interests of the pupils, and offers some opportunity to guide them to suitable types of secondary education.

The year 1965/66 can be considered as the beginning of vocational and technical secondary education in the Kingdom, when it was recognised that it was necessary to plan technical educational development to meet specific requirements, and to prepare students for the kinds of work that may suit their abilities, the opportunities available, and fit in with the general socio-economic development likely to result from planned development. Without a satisfactory flow of these persons with middle level technical skills, the prospects of industrial and economic development in Saudi Arabia are hardly likely to be realized.

In paying attention to these issues it was recognized that long-term planning would involve obtaining more accurate information and statistics about trends of technical development and the consequential skilled man-power needs.

It was also recognized that the study of the provisions of technical education in other Arab States might be of value. Consideration was also given to the problem of giving equal opportunity for technical education throughout the Kingdom, and it was realized that information about demographic and economic patterns should be necessary. To ensure the continuation of an effective policy and programme, it was realized that whilst the planning was the proper duty of the Ministry of Education, this could only be carried out with the close-co-operation of the other interested parties.

However, if these objectives are to be attained it will also be necessary to develop procedures which will ensure identifying potential aptitude, and persuading parents and students of the wisdom of advice based upon such procedures.

It is important that such reorientation is given to the whole system of education, so that instead of turning out only clerks and government servants, the country will be assured of an adequate flow of persons to fill the technical posts which will enable Saudi Arabia to develop its commerce, trade, industry, banking, administration, and produce experts in agriculture, engineering and other specialized fields.

Without such a re-orientation, the country will not be able to come to grips with the problems that face it, in the tasks of producing skilled manpower and raising the standards of living.

The vocational level of training provided by the vocational schools, between 1959/60 and 1968/69, produced 1,277 students for industry, 725 for commerce, and 487 for agriculture. The number of students doing vocational and technical training abroad in 1968/69 was 48 in France, 51 in Germany, 22 in Great Britain and 129 in Italy.

Higher Education in Saudi Arabia

Saudi Arabia has largely depended on providing scholarships to its students for higher education to study abroad. The Government Scholarships were systematically organized after the establishment of the first modern secondary school in Mecca in 1937, as already mentioned in Chapter II. The first batch of 15 students who graduated from this school were sent to Egypt in 1942. Since then, scholarships for study abroad have become a part of educational policy to produce graduates for the high-level labour force in the Kingdom.

In 1957 Riyadh University was established. It was the first modern institution for higher education to be established in the Kingdom to give training of professional level. It began with a Faculty of Arts only. A Faculty of Science was added in the following year (1958), and a Faculty of Commerce and a Faculty of Pharmacy in its third year (1959). The first batch of 10 studonts graduated from the Faculty of Science in 1961/62.

However, the number of students attending Riyadh University has been very small. In 1964/65, the total number of students in Riyadh University was 1,090, namely 392 in Arts, 192 in Science, 30 in Pharmacy and 472 in Commerce. In 1969/70, the total enrolment was 2,059 students, namely 327 in Arts, 405 in Science, 465 in Commerce, 102 in Agriculture, 163 in Education, 397 in Engineering, 165 in Pharmacy and 35 in Medicine, the latter having entered the pre-medical course for the first time.

The number of Saudi students in the various higher education institutions in 1969/70, including the Islamic University in Medina, the King Abdul Aziz University in Jedda, the Colleges under the Administration of the Grand Mufti, the College of Petroleum and Mineral Resources, the Colleges under the Ministry of Education and students abroad, totalled 7,163.

The table below shows the number of students in the Universities and Colleges in 1969/70:[1]

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1. Excluding 1,568 external students.

Table 23

Universities and Colleges	No. of students
Riyadh University	2,059
King Abdul Aziz University	265
Islamic University	591
College of Petroleum and Mineral Resources	450
Colleges under the Ministry of Education	616
Colleges under the Office of Mufti	1,393
Students abroad	1,789
	7,163

Comparison with the provisions to be found in other Arab States in terms of student numbers per 100,000 inhabitants, shows that Saudi Arabia is far worse provided for than any of the other major Arab countries.

Table 24

States[1]	Per 100,000 inhabitants
Algeria	54
Iraq	312
Jordan	97
Lebanon	759
Libya	108
Morocco	78
Sudan	45
Syria	656
Saudi Arabia	24
Tunisia	101
Egypt	500

1. Unesco Statistical Yearbook, 1967, Paris 1968, p.185.

Examination of the figures of graduates from the University of Riyadh from year to year in the different faculties provides a clear picture of the balance of output between the different disciplines, as the table below shows.

Table 25

Academic Years	Arts	Commerce	Engineering	Science	Agriculture	Pharmacy	Total
1960/61	15	-	-	-	-	-	15
61/62	27	-	-	10	-	-	37
62/63	32	53	-	6	-	11	102
63/64	51	116	-	14	-	12	193
64/65	50	40	-	24	-	11	125
65/66	80	46	-	20	-	7	153
66/67	59	46	16	20	-	11	152
67/68	55	51	28	27	-	..	161
68/69	66	51	26	26	10	4	183
	435	403	70	147	10	56	1,121

The number of students who are registered in academic studies (Literature, Islamic Studies, Economics, Humanities etc.) is far higher than those in the practical and scientific studies. In 1964/65, 86 per cent of Saudi students registered in higher education were pursuing academic studies.[1] In 1969/70, the number of students pursuing scientific and practical studies in the higher educational institutions within the Kingdom, namely in Science, Pharmacy, Engineering, Agriculture, Medical Science and

1. A Survey of Educational Progress in the Arab States, Al-Koussey, Tripoli, Libya, 1966, p.52.

Petroleum was 1,554 compared with 5,388 in academic studies of whom the majority were interested in Islamic and Arabic studies.

However, it should be noted that in 1969/70 there were 1,789 Saudi students in institutions of higher learning aborad: 113 in Natural Science, 484 in Engineering, 458 in Medical Science and 12 in Agriculture (see Appendix III).

Colleges not concerned with scientific and applied sciences cost less money to establish and run. They allow students to register but attendance is permissive. The result is that a large number of Saudi officials holding Secondary School Certificates are registered at Riyadh University. For instance, in 1969/70 the number of external students in the Faculty of Commerce was 337 and Faculty of Arts, particularly in Arabic studies, 503 compared with 465 and 327 internal students, respectively.

It would appear that the higher training institutions in the Kingdom do not concentrate sufficiently on the fields most relevant to economic growth and technological needs. The majority of university students are studying arts and humanities, while the development objectives of the country require the priority be given to training in science and applied sciences. For instance, in 1968/69 the number of graduates from practical and scientific studies in Riyadh University was 66 students only (see Table 25).

Again, comparison with other Arab States shows that the number of Saudi students studying the Natural Science, Medical Science, Engineering and Agriculture in 1966 fell far short of the numbers studying these disciplines in other countries.

Table 26

States[1]	No. of Students Studying:				
	Natural Science	Engineering	Medical Science	Agriculture	Total
Algeria	1,479	384	1,695	81	3,639
Libya	323	231	-	43	597
Morocco	698	322	588	131	1,597
Saudi Arabia	199	232	34	78	543
Jordan	282	142	126	125	675
Lebanon	1,262	862	1,225	165	3,514
Syria	2,332	1,778	1,531	494	6,135

In an attempt to encourage a greater proportion of candidates to enter the science faculty, the Government differentiates the level of Grade for appointment of graudates to Govemment services. Science graduates are appointed on the Fourth Grade of Service, whereas Arts graduates are offered initial appointments on the lower Fifth Grade.

Saudi Arabia suffers from an acute shortage of Saudi doctors and para-medical personnel at all levels. In 1967 there were 55 Saudi doctors

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1. Unesco Statistical Yearbook, 1969, p.202.

compared with 371 non-Saudis working in the country. To correct this situation, in the academic year 1968/69, the School of Medicine was officially opened in Riyadh, with an enrolment of 35 students.

The following data provide a measure of past growth in the medical field:

Table 27

	1958[a]	1964	Annual Growth Rate 1958 - 1964
Hospitals	33	67	12.5 per cent
Beds in Hospitals	3,000[b]	5,550	10.8 per cent
Medical Centres	51	139	18.2 per cent
Dispensaries	49	157	21.4 per cent

	1958	1963[c]	Annual Growth Rate 1958 - 1963
Doctors[a]	249	500	15.0 per cent
Male & Female Nurses	550	760	6.7 per cent
Pharmacists	15	23	8.9 per cent
Other Specialists	198	273	6.6 per cent

a) Ministry of Petroleum and Mineral Resources Report, 1963
Population per physician:

1964	1965	1966	1967
13,000	12,857	12,857	10,542

b) Estimate
Population per hotel bed:

1964	1965	1966	1967
1,194	1,134	1,154	1,174

c) Dr. M. Shamsuddin, Report on Health Services of the Kingdom, 1964.

These data show that the annual rate of growth in medical facilities has been rapid and has overrun the rate of increase in personnel, especially in the case of nurses and para-medical personnel. Growth in supply of doctors appears to have paralleled the growth in facilities in recent years.

It is in the area of para-medical personnel that expansion will be most difficult. Midwives, sanitary inspectors, laboratory technicians, X-ray technicians and pharmacists are required in large numbers in Saudi Arabia (see Table 28).

Unfortunately, reliable information of the composition of the current supply of those specialists is not available, except in the case of pharmacists. However, such information as is available suggests that a high rate of expansion will be required to bring those categories of personnel up to strength.

The shortage of Saudi-para-medical personnel is illustrated by the following figures issued in 1967,[1] which shows the extent to which the health services are dependent upon persons recruited from outside the country.

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1. Ministry of Health, 1967.

Table 28

Personnel	Saudis	Non-Saudis	Total
Pharmacists	4	14	18
Nurses (Male)	199	436	635
Nurses (Female)	21	225	246
Staff Nurses	3	97	100
Midwives & Assistants	5	95	100
Laboratory Assistants	42	57	99
X-Ray Assistants	25	50	75
Pharmacist Assistants	21	154	175
Anaesthesia Assistants	19	14	33
Sanitarian Assistants	54	13	67
Other Technicians	15	14	29
Total	408	1,169	1,577

The statistics shown in Table 25 indicate tho small numbers of university graduates availablo year by year from1960/61 to 1968/69. This illustrates the acute shortage of highly skilled manpower available to fill responsible positions within the Kingdom.

The table below shows the positions filled in November, 1964, and budgeted in 1963/64:[1]

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1. Ministry of Finance 1963/64 (questionnairo of agencies, including civilians in Ministry of Defence, National Guard and Investigation; Ministry of Interior did not report.)

Table 29

Grade	Budgeted 1963/64	Filled Fiscal Year 1964 (Rajab, 1384AH)	Unfilled	Percent Unfilled
Cadre & non-cadre	47,574	46,411	1,163	2.4
non-Cadre	14,374	14,297	77	0.5
Cadre	33,200	32,114	1,086	3.3
Grades 6-9	28,119	27,478	641	2.3
Grades 4-5 (University Graduate Cadres)	4,112	3,908	204	5.0
Grades 2R-3	894	666	228	25.5
Grades 2P-Up	75	62	13	17.4

The data tabulated represent nearly 60 per cent of cadre and non-cadre positions budgeted for 1963/64. A very high percentage of all positions budgeted were filled by the end of the fiscal year. Practically all non-cadre and the lower grades were filled, but at the higher end, the difficulty of finding suitable candidates resulted in a quarter of jobs at the Grades 2R-3 being vacant, and more than one in six positions being unfilled at the top level. Even though a large proportion of higher grade jobs went unfilled, the number of such positions budgeted was so small that there were actually more positions below grade five unfilled than in grade five and above. Grade five requires a College degree or equivalent experience for entry.

This reflects a critical need for trained personnel for higher governmental and technical posts (see Table 14 for more details of Saudi civil servants at various levels).

If these deficiencies in output from the higher education sector to meet the shortage of high level personnel necessary for the execution of various development programmes required for the prosperity as well as the cultural progress in the present age of science and technology, it is clear that considerable expansion of education must be brought about as quickly as possible.

The economic, commercial, industrial, educational and social institutions require for their organization and administration a large number of highly trained, diversely qualified personnel, such as medical doctors, engineers, scientists, educationists and experts in commerce, agriculture, irrigation and explorers of water, petroleum and mineral resources as well as specialists in public administration and other higher vocations.

It is therefore essential to consider:[1] 1) the present unduly slow rate of expansion of higher education, particularly in industrial and agricultural education, 2) the need to bolster the quality of scientific

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1. Increase in enrolment at higher level from 1962 to 1967 is as follows (in thousands):

1962	1963	1964	1965	1966	1967
1.7	2.4	2.5	2.8	3.2	3.1

and technical training and, 3) to create specialized training facilities for scarce skills, so that the country may safeguard the future quality of higher education.

Unless effective measures are taken to make suitable provisions for higher education, Saudi Arabia will, in about ten years' time, not only lack the technical personnel required merely to continue the major current projects in which it is investing a large proportion of its resources, but will also have to continue relying upon expatriate recruitment to provide the personnel needed for new development projects.

However, the expansion of higher education is directly related to secondary education which is the source of potential high level manpower and also the source of the middle level manpower. In some ways, therefore, the situation in secondary education is critical to the whole manpower issue.

Female Education

In a statement of the general principles of education published in 1970, the Government states: "The determination of the girl's right to obtain the education which suits her nature and prepares her for her task in life provided this is done in a decent and dignified manner and in the light of the Islamic law, as women are the sisters of men."[1]

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1. The Educational Policy in Saudi Arabia, Ministry of Education, Riyadh, 1970, p.7.

This statement accords with the place of women in Islamic society from the earliest days. But when the State first took steps to provide formal education at the State's expense it did not deem it necessary to include provisions for girls. In fact it was not until 1960 that the need to provide modern education facilities for girls was officially recognized. Persons familiar with the structure of Saudi society and the strength of the conservative traditions influencing social structures might well have been amazed at the State's accepting the need to provide modern education for girls at this stage in the country's social development. The acceptance of the role of women in society as primarily that of child-bearing and the carrying out of the related domestic functions is still strongly held in some sections of the society.

This does not mean that before the official recognition of girls' education in 1960, Saudi girls were entirely deprived of education. There were some broad-minded wealthy families who provided education for their female children either at home, through private schools, or abroad in the neighbouring Arab states, such as Egypt and Lebanon. Furthermore, it must be noted that Islam did not confine education to males. Acquisition of knowledge was as great a duty of woman as of man, for Islam wanted the women-folk to develop their rational faculties along with their physical ones. The stress on the importance of knowledge for both male and female was

made more than 13 centuries ago, namely since the dawn of Islam, and not as a special privilege of a particular class but as an essential and unavoidable need for both sexes. The Prophet Muhammad said, "Learning is obligatory upon both male and female."

It is worth mentioning that the official introduction of girls' education, in 1960, was strongly opposed by some segments of the population, in particular, some of the theologians. On the other hand, some accepted the principle, but objected to the Ministry of Education undertaking this responsibility. After much heated debate, it was decided that the girls' schools should be placed under the independent supervision of the Grand Mufti of the Kingdom.

However, the implementation of the policy of education for girls, and its subsequent expansion throughout the Saudi Kingdom, was mainly due to the initiative of King Faisal and his firm stand against those who had made a strong attempt to prevent the opening of girls' schools in their midst. A deputation visited Amir Faisal, then Crown Prince and Prime Minister, and strongly urged him to order the closing of the schools because the inhabitants did not want their girls to be educated. They pleaded with him to spare Saudi girls from the possible consequences of school education.

Amir Faisal discussed the objections which he had heard, using all his eloquence to convince the objectors that the education of girls was

a good thing and that, in the schools established by the State, there was every guarantee that Saudi girls would remain true to their religious and moral principles, would keep in harmony with their community and would be better prepared to carry out their functions as wives and mothers. The objectors insisted on their stand, while Faisal insisted that the State would never close the schools which it had opened for the education of girls, even if it should happen that not a single girl came to that school to learn. He told the objectors: 'The State is opening this school in fulfilment of its duty to the community, but it cannot force you to send your daughters to it. As long as there is the possibility of even one girl coming at any time to this school to learn, the school must remain available and equipped with teachers in advance, and the State must protect its existence with all the power it possesses."[1]

Since then, the number of girls' schools has been increasing rapidly, and the government authorized the Ministry of Education to regard the primary, intermediate and secondary school certificate for girls as equal to those for boys. In 1960/61, the total female enrolment in public and private schools was 11,754. By 1965/66, total enrolment had risen to about 61,686 girls. The contribution of public education to this growth has

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1. A. Assah, Miracle of the Desert Kingdom, Johnson Publications Ltd., London 1969, pp.312-313.

been outstanding. In 1960/61 the enrolment in government schools was 5,201, but by 1965/66 female enrolment in government schools had risen to 52,887. Thus, the average increase in enrolment has been about 9,536 girls per year. During the same period, the number of public school establishments rose from 16 to 187, and 331 in 1968/69 and budget allocation increased from SR 4.4 million to SR 45.6 million, and SR 93.7 million in 1968/69. The number of teachers employed in government schools rose from 113 to 2,023 during the same period, namely from 1960/61 to 1965/66, and 3,886 in 1968/69,[1] thus producing a marked improvement in the student-teacher ratio.

Recognition of the need for training future teachers to meet their expansion is reflected in the increased provision of teacher training from one institution in 1960/61 to 13 institutions in 1964/65, and 26 in 1968/69. At the same time, student enrolment in teacher training institutions rose from 20 to 170 from 1960/61 to 1965/66, and 3,892 in 1968/69.

Increased expansion of girls' education is necessary to achieve the same rate of growth as is achieved for boys.

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1. Of whom there were 849 Saudi teachers compared with 3,037 non-Saudi teachers.

The following table shows the comparison between the number of boys and girls in the primary schools, from 1967/68 to 1969/70:

Table 30

Academic Years	Schools		Students	
	Boys	Girls	Boys	Girls
1967/68	1,278	266	242,499	86,698
1968/69	1,366	320	261,221	102,205
1969/70	1,446	378	277,364	119,789

This table indicates that the primary girls' schools must be increased two to three times over the next years. If those targets are achieved, approximately 24 per cent of girls in the 6 - 13 age group could be attending schools by 1970, compared with approximately 10.7 per cent in 1964/65.

Enrolment in Intermediate and Secondary classes should increase significantly to meet the increasing demands placed on those facilities by expanding enrolment in the primary schools.

The table below shows the comparison between boys and girls in the Intermediate and Secondary Schools from 1967/68 to 1969/70:

Table 31

Years	Intermediate Schools		Students		Secondary Schools		Students	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1967/68	208	22	37,712	3,176	74	8	8,548	843
1968/69	260	20	43,096	4,020	90	5	10,430	1,023
1969/70	301	22	48,848	5,305	58	6	12,177	1,487

Higher education among Saudi girls is still at an initial stage of its development and is quite a recent phenomenon in the Saudi Kingdom.[1] The King Abdul Aziz University in Jeddah is the only higher educational institutions which enrols girls as internal students, since its establishment in 1967/68.

However, there are a number of Saudi girls who have been enrolled as external students in Riyadh University, the College of Education and the College of Sharia in Mecca. In addition, in 1969/70 there were a number of Saudi girls in higher educational institutions abroad: 58 in Medical Science, 1 in Science, 1 in Engineering, and the rest of faculties shown in Appendix IV.

The table below shows the number of external and internal girl students in Riyadh University, the College of Education and the College of Sharia, and the King Abdul Aziz University in Jeddah:

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1. The College of Education for girls was officially opened in Riyadh in the academic year 1970/71, with an enrolment of 81 students.

Table 32

Years	Riyadh University		College of Education	College of Sharia	Jeddah University
	Arts	Commerce	External	External	Internal
1961/62	3	1	-	-	-
62/63	15	5	-	-	-
63/64	37	10	-	-	-
64/65	59	22	-	-	-
65/66	90	28	-	-	-
66/67	95	19	-	-	-
67/68	122	14	-	-	30
68/69	148	30	60	7	66
69/70	182	37	91	21	98

In terms of manpower capacity and labour force, the Saudi Kingdom is exclusively a male society in which women have defined place and role; the place is subordinate and the role is to carry the routine daily burdens of domestic life.

The economic life of the town and all outdoor activities are taken care of by men, while women live in seclusion within the family dwelling. With women confined to the home, the streets, market places, shops, factories, offices, and restaurants become a male world with an enormous dominance of men over women. Only a limited number of trading women can be seen in the towns, who are either women

villagers or Bedouins selling eggs, poultry and homecraft products.

However, it is a widely held opinion among the Saudis, and it seems generally accepted, that vocational training should be made available for women in the particular fields of teaching, nursing, social work, and domestic science. One of the items of the objectives of education for girls, No.153, stated: "The object of woman's education is to bring her up in a sound Islamic way so that she can fulfil her role in life as a successful housewife, ideal wife and good mother, and to prepare her for other activities that suit her nature such as teaching, nursing and medicine."[1] In spheres other than these, the dominant attitude towards women having careers in such activities as office and secretarial work, counter clerks in shops and stores, factory work, is either one of indifference or still dominantly hostile because this would result in the emancipation of women. In the eyes of antagonists, the result is assumed to be an unwillingness on the part of the women to submit to male authority and might lead to some women indulging in immoral conduct. This opposition comes particularly from the theologians.

Even in the four spheres of the teaching profession, the medical services, domestic science and social work, the Saudi girls and women

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1. Op. cit., p.28.

are permitted to play a role only so long as it does not entail contact with persons outside the women's own family, and does not involve the risk of them being under the supervision of men who are not members of the family.

Although much lip-service has been given to the importance of the role of women within the confines of Islamic culture, and the need to give them an equal opportunity in society, progress in their emancipation is still very slow.

The emphasis in the girls' schools is still on training which fits them only for subsistence production in their own households, by teaching them better cooking, better child care, sewing and embroidery.[1] Such subjects take up much of the time in the girls' primary, intermediate, and teaching training schools, and the courses offered to girls and women under programmes of community development centres, in rural and urban areas, are devoted largely to them. Apart from the domestic training given in the schools, no facilities for women's training are offered (see Table 34, "The percentage of women in the community development centres").

However, "it would be foolish to deny the importance in

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1. The percentage of domestic teaching in the primary school is 13.64%; in the intermediate school 10.34%; in the teacher training school 19.65% - compared with other subjects.

developing countries of more enlightened methods of cooking, more hygienic methods of child care, and so forth, nevertheless, there is a danger that striving towards making more efficient housewives will make us forget or condone the utterly feeble efforts to improve women's professional efficiency outside the secluded profession of teaching and nursing."[1]

It is, therefore, of paramount importance that girls must be given ideals and other ways of asserting themselves, both in their own eyes and in the eyes of the male members of their community. One means of achieving this is to improve education and vocational orientation and training facilities for girls, according to the needs of development and in compliance with their potentialities and the responsibilities they should be able to carry.

Most boy students who have received secondary and higher education find jobs in administration or in the professions. But how can girls in Saudi Arabia make use of their education?

The tradition of seclusion of women in the country requires that if a girl is to be educated, she should be educated by female teachers in special schools for girls. Similarly, it is thought that decency requires women to be taken care of by female health personnel, female social

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1. Ester Boserup, Woman's Role in Economic Development, George Allen & Unwin Ltd., London 1970, pp.220-221.

workers etc.

However, "in spite of these obstacles to the development of a female labour force, side by side with the male labour force, the demand for professional women, in a country like Saudi Arabia where women live in seclusion, does not violate the values of seclusion, but indeed is a necessary result of those rules. Such modern facilities as schools, colleges, hospitals and training centres, can be introduced without danger to the system of seclusion, on condition that a staff of professional women is available, so that contacts between men and women belonging to different families may be avoided. The employment of limited numbers of women in the professions makes it possible for the great majority of women to avoid exposure to contacts with male professional staff. Moreover, even the professional women staff can avoid male contact if they are educated in establishments staffed by women, and when their education ends, they serve only other women and girls."[1]

In the light of these views, the situation in Saudi Arabia calls for a rapid increase in the supply of female teachers and the acceleration of the growth in the numbers of educated women employed in medical services, education and the social work. Making projections of the numbers likely to be involved is at present somewhat hazardous, involving

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1. E. Boserup, op. cit., pp.126-127.

as it does factors such as public acceptance of new roles, women forthcoming to respond to opportunities, the availability of trained and experienced women to provide the necessary facilities.

In the meantime, due to the acute shortage of teachers for the primary schools, it is desirable to make use of women teachers at least in the lower classes of the boys' schools. At the same time, the rate of expansion of the output of male teachers for secondary and higher education must be increased.

For the development of education, both for boys and girls in Saudi Arabia, the limited facilities for teacher education is an inhibiting factor to progress and development.

Adult Education

Before the establishment of the Department of National Culture in 1958 A.D. (1387 A.H.) within the Ministry of Education, to supervise on adult education, responsibility for the education of adults fell entirely on the individual efforts in the mosques and private houses, based on traditional religious education, already mentioned earlier in Chapter III.

From 1950 to 1958, the primary schools in the urban areas were, to some extent, the centres for adult education evening classes.

However, the task undertaken by the Ministry in 1958 was the first attempt to organize centres for combatting illiteracy among

the Saudi adults. The schools and centres for adult education have since then been developed.

The following table shows the development of adult education schools over ten years, from 1960/61 to 1969/70:

Table 33

Academic Years	No. of Schools	No. of Students
1960/61	87	9,220
61/62	183	16,843
62/63	204	21,577
63/64	254	23,927
64/65	393	32,739
65/66	397	33,374
66/67	500	37,698
67/68	550	34,824
68/69	602	35,231
69/70	607	42,314

In 1967, the experimental literacy campaign was extended to the Northern Province. The region was chosen for experiment because the predominant proportion of the population were nomads and cattle raisers. The experiment is sponsored by the Department of National Culture, within the Ministry of Education.

In 1968/69, the Ministry of Education adopted a five year plan for a literacy campaign, with the intention of establishing adult

education centres at the rate of about 40 per year. The plan consists of summer campaigns for combatting illiteracy among nomads and Bedouins and the remote agricultural centres where there are no regular night schools such as are found in the urban areas.

The programme for adult education stresses largely the teaching of the "3 Rs" and giving instruction in the basic aspects of religious education. Non-academic subjects are not normally included in these programmes for adults, and little attention is given to providing fundamental information in the cultural, social, economic and health fields.

The existing adult literacy and education programmes have been established empirically, using methods adopted from experience outside Saudi Arabia, and in some respects relying upon the content of the primary curriculum. Most of the teachers are normally engaged in primary school teaching.

However, "the term adult education is being used very widely to embrace all organized activities outside the school system which aim at human improvement through educational process. In this context, activities known as 'training' and 'community development' are considered as branches of adult education."[1]

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1. Edwin Townsend Coles, Adult Education in Developing Countries, Pergamon Press Ltd., London, 1969, p.22.

The first Vocational Training Centre for adult workers in Saudi Arabia was established in Riyadh in 1963. In 1966, two other centres were added in Jeddah and Dammam and later in Qaseem and Ta'if. The I.L.O. furnished the centres with experts and equipment. The training course ranges from 15 to 18 months. The number of experts and trainees is shown in Tables 18 and 19.

The pilot project of Social Development Centre was established at Direyah village, near the capital, Riyadh, in 1960. The area to be covered by this pilot project consisted of four villages with a total of about 10,000 inhabitants.

Direyah was selected as a pilot project for the following reasons: a) it is located nearly 15 miles to the north of Riyadh, the present capital of the Kingdom. This will make it easy for the sponsoring ministries to provide supervision and follow up this experimental project; b) it was the old capital of al-Saud, the present royal family, before its destruction by the army of Muhammad Ali of Egypt, in the early 19th century; c) because it was a centre of the movement of Sheikh Muhammad Ibn Abdul al-Wahhab; d) its economy, based on agriculture, required public serivces.

Direyah pilot project, after being operated for a short period of time, has achieved success in many aspects, such as forming a community council, co-operative society, rural club, social studies in social security,

provision of facilities for adult education and activities for women, as well as raising the agricultural products and health standard.

In 1961, as a result of the tangible progress shown by the pilot project of Direyah, the Council of Ministers introduced other Social Development Centres in al-Hasa, Buraida, Jizan, Wadi Fatimah and Medinah.

The following table shows the number of social development centres, since the establishment of the first in 1960, up to 1969:

Table 34

Years	No. of Centres Rural	Male (000s)	Female	No. of Centres Urban	Male (000s)	Female
1960	1	20	350	-	-	-
61	6	120	1,295	-	-	-
62	11	220	2,260	5	100	1,016
63	11	220	2,205	5	100	1,120
64	11	220	2,305	5	100	1,180
65	11	220	2,420	5	100	1,250
66	11	220	1,020	5	100	686
67	10	200	1,020	6	120	690
68	10	200	2,301	6	120	947
69[1]	10	200	2,746	6	120	1,205

Source: Ministry of Labour and Social Affairs.

1) One of the Social Development Centres has been redesignated to Social Service Centre.

It is worthwhile noting that the United Nations has played an effective role in terms of supporting the community development centres programme by providing technical assitance and equipment.

"The relationship between community development and adult education is a close one. The stimulation of a local community to make good some lack in amenities such as road, clinic or school, has benefits far beyond the obvious material ones. People thus moved are likely to be concerned with other forms of improvement, not least of which will be the acquisition of new skills and growing and deepening interest in their community as a social entity."[1]

The adult education programmes, the vocational training centres, and community development programmes, identified earlier, are a series of many other steps taken by Saudi Arabia to localise the civil service and to give preference for employment to nationals rather than expatriates. This has caused an acute demand for trained manpower, an issue which will not be greatly changed for many years to come. Even with a massive expansion of secondary school places, the numbers of qualified people coming out of the schools is bound to be insufficient for the appointments available. Furthermore, it must of necessity take several years before school-leavers are sufficiently mature to be given positions of senior responsibility. The successful promotion of the present development plan in the country depends on the quality of human resources available as much as it does on the possession of material capital. Where a high proportion

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1. E.T. Coles, op. cit., p.24.

of these human resources are not only untrained in the specialized skills essential to development purposes, but wholly illiterate as well, planning objectives may be in serious jeopardy.

It is essential, therefore, if manpower requirements are to be met by nationals rather than expatriates, there must be increased provision for adults in literacy centres, vocational training centres and social development centres, to improve themselves and qualify for semi-skilled or skilled jobs. The skills of reading and writing are essential if the mass of the population are to gain access to the treasures hidden in books.

Besides, "it is noticeable that from the economic point of view, there is a significant correlation between illiteracy and gross national product. In other words, the level of literacy appears to be closely linked to that of average per inhabitant income. The countries where the percentage of adults able to read is below 30% are also those in which the national income is below $200 a head."[1]

If the programmes are to be made as effecient and effective as possible, it is of paramount importance that research and practical studies be made into the teaching of illiterates and the imparting of knowledge to them. Studies are also desirable into their motives for learning, and it is obviously essential to arouse in the common people a

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1. IEY Special Unit, Unesco, Paris, 1970, p.5.

desire for change and a recognition of the part to be played by adult education in inducing change. It is equally important that non-government bodies should undertake the responsibility for encouraging adults to join literacy campaign programmes. In this connexion, special emphasis needs to be placed on the use of mass media for the teaching of what has been called functional or work-oriented literacy to adults. The earlier approach to literacy training based only on teaching by one person of another, simply cannot in the foreseeable future meet the needs of Saudi Arabia with a high illiteracy rate (see Table 35), where there are relatively few people able to teach.

Evidence from experiments in functional literacy outside Saudi Arabia suggests that such an approach might have much to offer and might stimulate fresh thought about some aspects of education for development in the light of socio-economic needs of the Saudi Kingdom. It is a type of innovation which can enrich the process of education and create close links between school and everyday life, by strengthening the Inter-dependence between school and out-of-school education. It thus opens up new prospects for a fresh study of the guiding ideas and principles of education considered as a factor in development.

"Functional literacy in its simplest terms is literacy integrated with specialized training, usually of a technical naturo. Directly related

to development, it is conceived within the context of social and economic priorities, and planned and implemented as an integral part of a development programme or project. Its goal is to assist in achieving specific socio-economic objectives by making men and women receptive to change and innovation and by helping them to acquire new skills and new attitudes. It aims at a more comprehensive training of the illiterate adults which is related to its role both as producer and as citizen."[1]

"Whereas earlier literacy programmes aim at teaching the basic mechanisms of reading, writing and calculation to the greatest possible number of illiterates through large-scale campaigns, its programmes are conducted mainly on the same lines as school education, with instruction being given in a certain number of subjects. All the means employed in such campaigns are concentrated on one aim: that of teaching the alphabet so as to enable the individual to gain access to written and printed information."[2]

However, it should be emphasized that there is no conflict between the functional and the earlier approaches. In fact, far from being mutually exclusive, these two forms of literacy training are

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1. Unesco Chronicle, April, 1970, Vol.XVI, No.4, p.172.
2. Ibid., February, 1970, Vol.XVI, No.2, pp.71-72.

complementary to each other. Earlier patterns of literacy programmes are becoming increasingly "functional", and a number of countries such as Brazil, Chile, the Congo (Brazzaville), Laos, Niger, Senegal, Thailand and Tunisia are already executing literacy programmes in conjunction with occupational and production activities. [1]

Saudi Arabia which is confronted with the problem of the scarcity of of trained personnel needs to introduce programmes of systematic training activities which are sufficiently wide and varied to check illiteracy on a relatively large scale, while attacking its roots in the priority development sectors by means of intensive functional literacy projects.

The gravity of the present state of illiteracy in Saudi Arabia is illustrated by the situation among the Saudi workers in the four major cities and the Eastern region, as the following table shows: [2]

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1. IEY Special Unit, Unesco, Paris, 1970, p.17.

2. Excluding the workers in oil companies and government institutions.

Table 35

Saudi Workers[1]

	Illiterates	Can read & write	Primary Certificates	Intermediate Certificates	Secondary Certificates	University Certificates
Riyadh	4,693	3,183	972	308	146	68
Jeddah	3,966	2,992	1,198	494	345	190
Mecca	4,007	2,842	795	246	120	29
Medina	1,942	1,779	356	77	43	1
Eastern Region, Excluding Al-Hasa	3,852	2,346	741	212	93	32
	18,460	13,160	4,062	1,337	747	320

Approximately 48% of the workers are illiterates, and nearly two-thirds of those who can read and write have only 3 - 4 years of school, and one-third have only had 1 - 2 years of schooling.

These figures suggest that immediate priority should be given to functional literacy programmes among these workers, for it is these people w who provide the immediate pool of possible local trainees for skilled work and supervisory staff at the foreman level in the constructional and related activities. Even if a sufficient flow of young people from school into the modern sector of the economy is soon forthcoming, their immaturity will

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1. Ministry of Labour and Social Affairs, Statistics Department, 1968.

prevent this being engaged in supervisory activities for some time to come. Without satisfactory programmes of adult education starting with functional literacy, Saudi Arabia will continue to be largely dependent upon immigrant labour and supervisory staff. This is a situation which is unsatisfactory both from a political and an economic point of view.

The development of a suitable plan for adult education in these circumstances will call for considerable flexibility and an integration of formal education and adult education facilities if the best progress is to be made.

It is much easier to describe what is meant by secondary schooling or higher education than to indicate what is comprehended by the term adult education. This is what should be expected, since adults are mature people with a variety of interests and aptitudes.

In a world undergoing ever quicker technological changes, man can seldom now be trained for all the skills required to earn a living throughout life.

In every mode of employment, new skills have to be mastered, and the use of new techniques and materials understood. There can be few occupations where this is not true, and whilst this need for continuing learning is seen most obviously in the industrialized countries, it is also becoming of increasing significance in the developing countries.

The present farmer learns new techniques of rice cultivation, the craftsman buys a sewing machine and has to learn how to use and maintain it, new forms of transportation require people with mechanical and electrical skills for their maintenance.

Once these adults become educated their efficiency will be raised, and they will be able to move on from the unskilled level to the middle manpower of the skilled level. Literacy will open new avenues and will help them improve their efficiency, thus increasing their income and contributing to the whole economy of the country.

"The education of adults engaged in productive employment is, today, more vital than ever to societies in rapid transformation. With the transition from subsistence to market economies, from rural to urban life, from older methods of manufacture to automation, and from agricultural or industrial production to the teriary professions which serve society, there is need not only for new machines but for a new view of man himself. Without continuous education, there can be no adaptation to changing conditions." [1]

These adults should have greater access to education facilities and vocational training, as well as correspondence education. It is from

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1. Unesco Chronicle, March 1968, Vol.XIV, No.3, p.95. (Mass Media in Adult Education Literacy, by Tor Gjesdal).

these that the immediate level cadre will have to be recruited. In these circumstances, whilst an adult education programme should be developed in general terms, it should initially be concentrated on economic priorities.

Balance has to be achieved between education of children and adolescents on the one hand, literacy teaching for adults on the other. None of these two forms of educational investment have absolute priority. They all contribute their share, in different ways, to raising economic output. Establishing the correct balance of effort in each sector will call for very shrewd appreciation of the short and long term manpower needs of the country in relation to the resources available for education.

In a world of rapidly developing knowledge of science and technology and the proliferation of new methods and techniques of increasing agricultural and industrial output, a country like Saudi Arabia with more than 90 per cent of its population illiterate, cannot advance very fast. The illiterate can neither become a useful and progressive farmer nor contribute effectively towards increased industrial production. Unless those adults who are primary producers and wage earners and whose efforts prompt the country forward in its march towards social progress are enabled to derive from books an understanding of their

work, the achievement of tangible results in the field of development is likely to be limited.

'Twenty years' experience of national independence have caused Indian educators and planners to recognize two basic desiderata for adult education: first, universities and educational institutions must play a dominant role in its promotion and, secondly, a profession of adult educators must emerge in order to integrate adult education into the normal educational system of the country by conceiving education and learning to be a life-long continuing process."[1]

Supply of Teachers

Many of the underdeveloped countries are so short of people with enough education to make competent teachers, that those who have a degree in education automatically become part of the intellectual elite, and move into non-teaching positions with high pay and prestige.

Since many underdeveloped countries are committed to educational expansion, they attempt to obtain teachers from abroad. Although this runs against national aspirations, it appears the only immediate solution.

Saudi Arabia is one of these countries which are largely dependent on expatriate teachers to staff the schools and colleges. In 1965, 49% of the men teachers, and 90% of the women teachers in primary

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1. John Lowe, Adult Education and Nation Building, Edinburgh University Press, Edinburgh, 1970. (India, by S.C. Dutta, p.142).

schools were not Saudis. In secondary schools, 73% of the men teachers and 100% of the women were from abroad.[1]

Saudi teachers in the primary schools can be divided into various categories:[2]

a) Higher Secondary School graduates or their equivalents do not exceed 2%.

b) Teachers training School graduates (3 years after primary school), form 65%.

c) Those who have had night teacher training course certificates, 6%.

d) Lower Secondary School graduates (3 years secondary), nearly 6%.

e) Primary School graduates (6 years' schooling), nearly 17%.

f) Those without formal academic qualifications, who have had teaching experience amounted to nearly 4%, (their own education being gained mainly in the Kuranic schools).

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1. Al-Koussey, op. cit., p.67.

2. Taqreer Ādam un al-Ta'leem al-Ibtidāī: Nashātuhu wa Tatawuruhu, Wazārat al-Māaref, 1966, pp.10-11.

   (General Report on Primary Education, Ministry of Education, 1966).

The table below shows the number of Saudi and non-Saudi teachers in primary schools, from 1960 to 1968/69:

Table 36

Academic Years	Saudis	Non-Saudis	Total
1960/61	2,569	2,371	4,940
61/62	3,558	2,955	6,513
62/63	3,747	3,821	7,568
63/64	4,472	3,829	8,301
64/65	3,970	3,832	7,802
65/66	4,551	4,151	8,702
66/67	4,938	4,962	9,900
67/68	6,175	4,658	10,833
68/69	6,847	5,064	11,911

Non-Saudi Teachers in Primary Schools

The foreign teachers in primary schools, mostly from the Arab states, have in the past, with few exceptions, not been trained teachers. They were persons who had obtained Higher Secondary Certificates in their native countries, and who hoped eventually to pursue University studies and did not intend to become professional teachers.1 They lacked teaching experience and were not acquainted with modern methods of teaching. Furthermore, because they were engaged on one year contracts subject to renewal,

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1. In 1969/70, the number of non-Saudi teachers qualified in Higher Secondary School Certificates was 5,134 out of the total number of 9,126 expatriates, teaching in primary schools.

they had little sense of security, and consequently their commitment to their teaching duties tended to suffer. Their insecurity and questionableness of performance together with dissatisfaction about their living conditions and the climatic difficulties resulted in an extremely high turnover of teaching staff.

The current situation has been much improved by the recruitment of the considerable numbers of trained teachers from Egypt. However, this can only be seen as a palliative, for despite the unity of Islamic culture, national loyalties and aspirations are bound to differ. The initial education of children cannot be wholly satisfactory unless it is in the hands of fellow countrymen. Furthermore, it is inevitable that teachers recruited from outside the country will for the most part, have no wish to stay for any considerable length of time. Yet stability and continuity are essential features of good education for the young who need security and understanding which alone gives confidence.

In 1965 there were 49.2 per cent trained teachers in primary schools out of the total 7,802, namely 3,836 were trained and 3,966 untrained.[1]

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1. Al-Koussey, op. cit., p.35.

In 1969/70, there were 6,907 male Saudi teachers in primary schools compared with 5,944 non-Saudis, and 1,148 female Saudi teachers in girls' primary schools compared with 3,182 non-Saudis, namely the total number of Saudis was 8,055 compared with 9,126 non-Saudis.

Before the establishment of the Ministry of Education in 1953, there were only two primary teacher training schools; one was established in Mecca in 1931, and another in Medina in 1947.

The present Primary Teacher Training Schools, which have extensively been introduced since 1953, are the institutions from which Saudi Arabia draws the majority of its native teachers for the primary schools. Previously, the candidates enrolled in these Training Schools were the holders of the Primary School Certificates. Since 1965/66, the candidates have to have the lower Secondary School Certificates, (3 years after primary). In 1963/64, the products of the Primary Teacher Training Schools formed 62.5% of the total number of Saudi teachers in the primary schools.

The following table shows the number of students graduated from the Primary Teacher Training Schools, in a decade, from 1959/60 to 1968/69.

Table 37

Academic Years	Entrants for Exam.	Passed
1959/60	502	413
60/61	728	553
61/62	1,083	935
62/63	1,291	1,052
63/64	1,547	1,066
64/65	2,202	1,491
63/66[1]	2,425	1,455
66/67	2,517	1,784
67/68	794	564
68/69	140	116
Total:	13,229	9,426

Following the Ministry's decision, in 1965/66, to accept pupils from the Lower Secondary Certificates, two Upgrading Primary Teacher Centres were established, with an initial enrolment of 350 students, who were the graduates of the Primary Teacher Training Schools (3 years after primary). In 1969/70, there were 913 pupils in these centres.

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1. The year of the Ministry's decision to accept pupils from the outputs of Lower Secondary Level, for both P.T. Training and Technical Schools. The decrease in number of graduates in 1967/68 was due to an elimination of the old system.

Secondary School Teachers

Saudi secondary school teachers are mostly the products of the two colleges. Firstly, the College of Sharia which was established in 1949. The main purpose of this college was initially to produce judges, preachers and religious teachers. Secondly, the Teachers' College which was established in 1952 (Ministry Decision No.43, 20/3/52 A.D.) It was the first institution for secondary school teacher training of professional level. However, this college was replaced by the College of Education, in Mecca in 1962/63.

In 1967/68, another College of Education was established in Riyadh, under the sponsorship of UNESCO, with an initial enrolment of 29 students.[1]

In addition to the products of the above colleges, there are other products of the College of Sharia and the College of Arabic Language, in Riyadh, working as religious and Arabic language teachers at secondary level, and there are a handful of Cairo and Riyadh University graduates teaching or working as administrators in secondary schools (see Table 39).

In 1969/70, there were 70 Saudi teachers in secondary schools, compared with 422 non-Saudis, and there were no female Saudi teachers at secondary level. In intermediate schools (3 years after primary), the

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1. The courses in both Colleges of Education, in Mecca and Riyadh, are divided into sections, namely Physics, Geography, English Language, Mathematics, Education and Psychology.

number of Saudis was 1,105 compared with 2,360 non-Saudis and 5 female Saudi teachers in the intermediate schools, compared with 184 non-Saudis. Thus, the total number of Saudi teachers in Upper and Lower Secondary Levels was 1,175, and of non-Saudis 2,802. The number of Saudi and non-Saudi teachers in the various levels of education is shown in the Appendix.

The enrolment in the three colleges has been very small in number, as the following table shows:

Table 38

Year	College of Sharia in Mecca	College of Education in Mecca	College of Education in Riyadh
1962/63	250	130	-
63/64	191	141	-
64/65	163	190	-
65/66	232	156	-
66/67	153	156	-
66/67	218	230	29
68/69	261	326	42
69/70	313	415	163

Teachers in Higher Education

In 1969/70, the number of Saudi teachers in higher education was 159, compared with 414 non-Saudi teachers. Most of the Saudi teachers in higher education are engaged in Islamic studies and Arabic

literature, and many of them are demonstrators who should have opportunities of pursuing post-graduate studies either in Saudi Arabia or overseas. In 1968/69, there were 17 students sent to Great Britain, 17 to the U.S.A. and 1 to Beirut, for post-graduate studies.

The Provision of Saudi Teachers

The expansion of education requires inevitably an increase in the number of teachers. Data given earlier indicates that over 50 per cent of existing teachers in the Kingdom are non-Saudis.

If foreign teachers are to be replaced by Saudis, and if universal education is to be achieved, at least 40,000 additional teachers will be required in the public school system.

"As long as the country is largely dependent upon expatriates to staff the schools and colleges, it is likely to suffer handicaps to the development of a truly national system of education.

Education is much more than instruction. Short-term contracts, even when the persons engaged are Muslims, will not lead to the development of an education grounded in the ethos of the Saudi society. Furthermore, it is inevitable that a significant proportion of the persons engaged will not be of the quality required."[1]

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1. L.J. Lewis, Report on a Visit to Saudi Arabia, 1969, p.8.

Therefore, if teacher needs are to be fulfilled, steps must be taken to attract additional qualified Saudis into the teaching profession. One obvious means of attracting people to particular professions is through adequate salary incentives and appropriate terms and conditions of service.

Teachers' salaries in Saudi Arabia are low in comparison to salaries earned in other professions. For instance, only 10 per cent of teachers in boys' schools receive more than SR 600 per month. Of the remainder, approximately two-thirds receive an average of about SR 462 per month, and one-third receives an average of SR 500 per month. Thus, approximately 90 per cent of public school teachers in boys' schools receive salaries comparable to those paid in the lowest grades of government cadre employees.

Teachers' salaries, therefore, are equivalent to those paid to unskilled labour in the petroleum industry and to semi-skilled workers elsewhere in the country.

This situation will have to be rectified if the country is to have a Saudi teaching profession. It is suggested that among the steps that need to be taken are the following. Consideration should be given to a reversing of the existing terms and conditions of service of the teaching profession and to recommend salary scales which will provide adequate

incentives to attract and keep qualified Saudis in the teaching profession.

The quality of the present teaching staff should be improved by making special study of the qualifications of present teachers, recommending minimum standards of competence and establishing comprehensive improvement programmes including systematic in-service training facilities, correspondence education for teachers, and special teacher education in radio and television programmes.

While the country continues to be dependent upon expatriate staff, special steps should be designed to ensure the solution and employment of appropriately qualified teachers with an appreciation of the educational and national aspirations of the nation.[1]

One means of improving recruiting procedures is to renew contracts and issue re-entry visas prior to the end of each current academic year for foreign teachers whom the government wishes to have return. That in certain circumstances, programmes similar to the Teachers for East Africa scheme might be adopted, and some recruitment involving a period of local orientation and training might be considered.

If such developments can be brought about, the periods of contracts could properly be better related to lengths of time consonant with the continuity of pupil-teacher needs of particular types of course.

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1. In 1968/69, the total number of expatriate teachers, compared with Saudis, in the primary, intermediate and secondary schools, was as follows:
Primary Schools: 42 per cent; Intermediate Schools 73.4 per cent; Secondary Schools: 88.1 per cent.

The number of students enrolled in the Primary Teacher Training Schools, the College of Sharia and the two Colleges of Education should be expanded in numbers consonant to the replacement and expanding needs. The total number of students in these three colleges in 1968/69 was 477 only.

However, the recruitment of students into the primary teacher training schools and higher institutions for secondary teacher training is largely dependent on the modification of salary scales and terms and conditions of service for Saudi teachers.

Above all, "the entire national policy for teacher education needs to be reviewed. There is reason to believe that there is a lack of co-ordination of effort between the existing institutions, a lack of opportunity for exchange of experience, and a lack of research programme into the learning process, child development and the influence of social change on the education process. All these things are vital to the development of a healthy teaching profession and a sound education."[1]

Like many other countries, lip service is paid to the importance of the teaching profession, but many Saudis are reluctant to join the service (see Table 38, for the number of students in the three colleges of secondary

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1. L.J. Lewis, "Education To-day and Tomorrow", lecture given at the King Abdul Aziz University, Jedda, 1969.

teacher training). Therefore, the situation needs to be investigated and the causes for such reluctance discovered and removed.

The following table shows the percentage of qualified and unqualified Saudi teachers and administrators in the various stages of schools and institutes attached to the Ministry of Education, in 1968/69:

Table 39

Qualifications	Teachers		Administrators	
Without qualifications	116	1.5%	118	3.2%
Primary School Certificates	227	2.9%	592	16.3%
Lower Secondary Certificates (3 years after Primary)	305	3.8%	472	12.9%
Higher Secondary Certificates (6 years after Primary)	160	2.2%	155	4.3%
Primary Teacher Training School Certificates, and Teachers' Upgrading Centres, Teachers' Fine Arts & Physical Education Centres	6,288	80.4%	1,996	54.9%
University Graduates	702	8.9%	259	7.2%
Others	23	0.3%	40	1.2%
Total	7,821		3,632	

CHAPTER VII

THE INITIAL STAGES OF MANPOWER STUDY IN THE KINGDOM

The state of development of the natural resources and the national development projects, surveyed in Chapter IV, indicate the need to co-ordinate the activities of the education system which is the potential source of the skilled manpower necessary for the implementation of the development projects.

There is the need to test, by educational principles, what exactly each programme expects of education. There is also the need for educationists of all levels to accept its challenge, and be committed to ensuring its success.

The list of the natural resources and the development projects is by no means exhaustive. Successful exploitation of these resources and the implementation of the existing programme of projects will generate other lines of development.

Several of these schemes are directed towards the improvement of agriculture and cultivable land and other industries, and their successful implementation will reduce the present dependence upon the oil industry which is at present the major industrial sector in Saudi Arabia.

At present, the economic and social progress in the country is dependent upon the continued employment of foreign high-level manpower

in a wide variety of core positions, in major public and private institutions. This dependence delays the independent development of the Kingdom. Therefore, the first and most important need is to overcome the serious shortage of trained Saudi manpower. To bring this about, the expansion of facilities for education must keep pace with the socio-economic demands for skilled manpower.

The decision to initiate a manpower study and to ensure that there will be optimum use of the Kingdom's manpower resources, followed the establishment of the Committee for Manpower Development and Utilization in 1965.

This Committee was formed as a result of investigations conducted by the Central Planning Organization, under the guidance of Dr. Rashad Faraun. The results of these investigations were published in Chapter 18 of a document entitled Guideline for Growth in which it is stated that, "The most significant problem faced by the Kingdom is a shortage of persons willing and able to perform economically and socially useful functions."

Shortly after publication of the document Guideline for Growth, Dr. Faraun took action that led to the establishment of a Manpower Committee, consisting of persons selected from the Institute of Public Administration, the Central Planning Organization, the Ministry of Education, the General Personnel Bureau, the Ministry of Labour and Social

Affairs and the Ministry of Finance and National Economy.

The Committee set up a Manpower Secretariat in the Institute of Public Administration. The Secretariat undertook a variety of tasks, including:

1) Collecting data on college students studying abroad

2) Developing information on all training institutions in the Kingdom

3) Making recommendations for new training programmes

4) Making an inventory of the manpower resources in a few Ministries

5) Working with the Ministry of Interior to determine training needs.

The Manpower Committee studied the work done by the Secretariat and discussed all aspects of the problems. In undertaking its work, the Manpower Committee soon became aware that many policy decisions were needed, and much co-ordination of effort was required for solving some of the problems. It also became aware that it did not have authority for making policies or for affecting the necessary co-ordination work. Therefore, the Committee recommended to Prince Musa'ed, the Minister of Finance and National Economy, that a High Level Manpower Committee be established with appropriate authority to take action that would

ensure optimum use of the Kingdom's valuable human resources.

The High Level Manpower Committee consists of the following members:

Minister of Finance and National Economy, - Chairman

Minister of Agriculture and Water Resources

Minister of Education

Minister of Labour and Social Affairs

The Head of General Personnel Bureau

The Head of Central Planning Organization.

The problems noted by the Manpower Committee are outlined below:

1) Even though there is a shortage of skilled workers in the Kingdom, the Government's hiring policies are encouraging young men, either not to attend school at all or to drop out of school, before obtaining sufficient skills to enable them to be effective. For example, a young man with no formal education can obtain employment in the Government as a non-cadre employee; or he can enter into the cadre ranks at Grade 9 with only an elementary certificate. If the Government's policy is to develop a skilled labour force, serious consideration should be given to reviewing the present policies.

2) Related to this problem is the existence in the Kingdom of large numbers of unemployable or under-employed citizens.

There is a large group of Saudi citizens who do not possess the requisite skills to perform significant functions properly in this twentieth century world in which we live. There are many thousands of men in the country, perhaps as many as 50,000, working for the Government alone who fall into this category. As differences in living standards become greater between the employable and under-employable or unemployable, the latter groups could become a vocal dissident force. Reinforcing this problem is the prevalent attitude of many Saudis regarding the performance of technical crafts and other skilled activities of a practical nature, such as plumbing, carpentry, electrical and constructional crafts, which they are unwilling to undertake. One consequence of this problem is that the country is dependent upon a shifting foreign population for the performance of these skills.

At the present time, the country's economic system would slow down significantly if the country had to depend on its own internal man-power resources to operate the system. Such a situation is extremely unsatisfactory for any country in the world, regardless of the ease with which a foreign labour force can be imported. In the recent past the education sector has suffered seriously because of such dependence upon foreign personnel, and is still so dependent to a hazardous degree.

3) Examination of the records of the several hundreds of Saudi students studying abroad suggests that there are currently many men studying

for advanced degrees (MA, MPA, MS, MJP, Ph.D. etc.) - 288 in 1968/69 - who at the present time are satisfactorily qualified to carry out duties for which there is a shortage of men. The sending of young men abroad a second and even a third time for degrees they do not need is a luxury in terms of lost manpower that this country cannot afford at this time. Maintaining a balance between the provisions for advanced training and meeting current skilled manpower needs has frequently proved difficult in other countries. Finding a satisfactory solution to this problem probably requires special study including some reference to experience elsewhere.

One major step in dealing with this problem would be to identify specific posts and activities where it is imperative to have qualified Saudi personnel available. In the education sector the Universities and Teacher Education Institutions are obviously of importance. As has previously been noted, until education at all levels is in the hands of Saudi citizens it cannot be expected to be fully motivated, informed and reflective of the spirit and culture of the nation.

A second development of policy that is desirable is the encouragement of advanced training and research within the country. No university can be fulfilling its role until it is grounded in its own research and scholarship. This is one of the lessons to be learnt from the experience of the post-World War II universities established in former British dependencies. In those universities

which established honours schools and made provision for research from their initiation, the development of advanced training and effective collaboration with the Government authorities in helping to attack the problem of development, has been most marked. Furthermore, whereas persons sent overseas for advanced training and research too frequently find themselves engaged in work beneficial to the foreign institution and specific to the foreign environment, if their training and research took place in Saudi Arabia, the results would be more likely to be relevant to the local environment and the country's needs. Such a policy does not preclude Saudi specialists participating in studies and research overseas, but would serve to put the provisions in proper balance.

Related to this problem is a need for better management of students sent abroad. Better assessment is needed of the country's most urgent occupational requirements so that students can be trained in the appropriate subject areas. There is also needed a better system for managing the several hundreds of students studying abroad. It is not uncommon for them to change their major subject areas several times and therefore further delay the time when they will become useful members of the work force.

4) Perhaps one of the most critical problems the Kingdom faces in the years ahead is the need to integrate into the society in a meaningful way the hundreds of educated men who will be returning from being educated abroad.

One of the difficulties in this regard is that many top level management positions in the government presently are filled by persons whose education and experience has not necessarily qualified them for the duties they are expected to carry out. It will be extremely difficult to interest young and highly educated men to accept positions subordinate to these unqualified personnel.

There is need, therefore, for a ready mechanism for transferring or retiring from government service the less qualified persons presently filling these critical positions. In this respect there may be something to be learned from the outcomes of the Fulton Review of the Civil Service in Britain and the steps taken to deal with this kind of situation. Recent resolutions of the General Personnel Bureau show recognition of the need for such a policy.

Related to this problem is the need for alert managers to seek out opportunities to use men who are returning with degrees in such disciplines as Industrial Engineering, Chemical Engineering, Sociology, Psychology. These men will become disaffected if they are unable to find meaningful and challenging work. It is of utmost importance that this group be integrated into the labour force in a meaningful way.

A Five Year Development Plan (1970-1975)

The acceptance of a planning approach to the development of education in Saudi Arabia was put into effect in 1958 A.D. (1378 A.H.) when

the Committee for Economic Development was established. This was later transformed into a Supreme Council of Planning, in 1960 A.D. (1380 A.H.). In 1964 A.D. (1384 A.H.), the Central Planning Organization was founded to replace the above-mentioned Committee. As a result, planning units were introduced into the various ministries, including the Ministry of Education, in accordance with decision No.430, 11/9/1384 A.H. (1964 A.D.) of the Council of Ministers. Subsequently, the status of the Head of the Central Planning Organization was upgraded to the ministerial level and was made directly responsible to His Majesty the King in his capacity as Prime Minister.

In 16/8/1970 A.D. (13/6/1390 A.H.), the Central Planning Organization submitted a Development Plan to His Majesty the King, in accordance with the Articles B & C of the Council of Ministers' decision No.430, 11/9/1384, and was approved by the Royal Decree No.693, 4/7/1389 A.H. (1969 A.D.).

This Five Year Development Plan is the first in the Kingdom's history. It covers all sectors of socio-economic and educational development, in co-operation with the ministries, institutions and government bodies concerned.

The general objectives of the Five Year Development Plan defined by the Council of Ministers in Article (1) of its decision No.693, 4/7/1389 A.H.

(1969 A.D.), are as follows:-[1]

The preservation of the ethical values of Islam, the increase of prosperity, the raising of the standard of living of the Saudi people, and the maintenance of security and socio-economic stability. These are to be achieved by action: 1 - to increase the average rate of growth, in gross national product; 2 - to develop the manpower resources, so that they may contribute to the increasing of the productivity, in the process of socio-economic improvement; 3 - to diversify the sources of national income, thereby increasing production from other sectors of the economy and reducing the dependence upon petroleum, as a major source of income.

In so far as educational planning is concerned, the plan places great emphasis on the expansion of education, at various levels and the relations between education and the development of the skilled manpower needed. The plan also stresses the importance of broadening the Arabic and Islamic Studies in the higher religious institutions. Particular emphasis is put on the provision of teacher training, the recruitment of expatriates, school buildings, technical education, vocational training and the eradication of illiteracy.

The projections of pupil and student intakes at the various levels of education show increases which appear to reflect a natural growth rate at lower levels and recognition of skilled manpower needs at the upper levels.

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1. Al-Tijārah, op. cit., p.13.

The details are summarised in the following paragraphs:-[1]

Boys' Schools

It is expected that ninety per cent of boys of six years of age will be admitted to the first year primary schools by the end of the planning period, and that eighty per cent of Primary School Leavers will be absorbed into the Intermediate Schools, thereby the number of students in the Intermediate Schools will be increased from 37,389 in 1969/70, to 80,190 in 1975. Fifty per cent of the Intermediate School graduates will be admitted to the Secondary Schools, thereby the number in the Secondary Schools will be increased from 8,242 in 1969/70, to 18,324 in 1976, and the number of students in the Teacher Training Schools will be increased from 1,410 in 1969/70, to 3,853 in 1975, and the number of students in the Technical and Vocational Schools will be increased from 694 in 1969/70, to 2,727 in 1975.

Girls' Schools

It is expected that the number of girls in the Primary Schools will be increased from 114,800 in 1969/70, to 224,500 by the end of the planning period, and the number in the Intermediate Schools will be increased from 4,400 in 1969/70, to 23,500 in 1975, and the number in the Secondary

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1. Ilmeyah, Nashrah Ekhbareyah Shahreyah, Maktab al-Mushtashar al-Thaqafi al-Saudi, Adad, 12, Beirut, Lebanon, 1970, pp.3-5.

Schools will be increased from 350 in 1969/70, to 4,900 in 1975, and the number in the Teacher Training Schools will be increased from 6,492 in 1969/70, to 17,957 in 1975.

Religious Schools and Higher Religious Institutions

The number of students in the Religious Secondary Schools is expected to increase from 8,277 in 1969/70, to 12,002 in 1975, and the number in the College of Arabic Language in Riyadh to increase from 756 in 1969/70, to 2,351 in 1975, and that forty one per cent of the Religious Secondary School graduates will be admitted to the College of Sharia, in Riyadh. The number in the Higher Institute of Islamic Jurisprudence in Riyadh, it is estimated, will be increased from 19 in 1969/70, to 51 in 1975, and the number in the College of Sharia, in Mecca, will be increased from 286 in 1969/70, to 799 at the end of the planning period.

The plan has taken into consideration the increase of students expected to be admitted to Riyadh University. It is expected that fifty per cent of Secondary School graduates will be absorbed into Riyadh University by the end of the planning period. The number of students in Riyadh University, the College of Petroleum and Mineral Resources, in Dhahran, and the College of Education in Mecca, and the King Abdul Aziz University in Jedda, will be increased to 9,900 at the end of the planning period, compared with 3,800 students in 1969/70. The number

of students to be admitted to the College of Petroleum and Mineral Resources, at present 200 a year, will be increased to 250 at the end of the planning period. The total enrolment at the King Abdul Aziz University is planned to reach 825 by 1975. In addition, it is expected that the number of female students in the College of Education for Girls, which was officially opened at the beginning of the academic year 1969/70, in Riyadh, will be increased to more than 900 by the end of the planning period.

Along with the increase in the number of students at various educational levels, it is intended that the number of night schools for adult education will be increased from 592 in 1969/70, to 792 in 1975; in addition, an experimental stage of using T.V. for educational purposes will be initiated during the implementation of the five-year plan.

The plan concludes the provision of assistance by the Government to all the above-mentioned developments in providing modern equipment and various facilities, and through co-operation with foreign institutions.

The production of the plan and its approval is without question a matter of considerable importance in the history of Saudi Arabia. Its successful implementation will make very considerable demands upon the comparatively small number of Saudi citizens with the appropriate skills and knowledge. Whilst raising the hopes of the community at large, it may

also create new problems through raising the aspirations of the people. It is, therefore, of more than ordinary significance that the designers of the plan have defined one of the general objectives as the preservation of the ethical values of Islam and at the same time have stressed the importance of broadening the Arabic and Islamic studies in the higher religious institutions.

Whilst it is reasonable to expect that expatriate skilled manpower may usefully contribute to most of the socio-economic developments visualised in the plan, it is doubtful whether expatriate assistance will be able to contribute greatly to the plan objectives in respect of the ethical and religious aspects of the life of the society. In the success that it is hoped will be attained in these matters, there may well be found a unique contribution from Saudi Arabia not only for other Muslim states but for all countries where planned socio-economic development must involve adjustment of ancient proved values to the new stresses which are bound to occur with the inevitable spread of modern technological modes of thought and methods of practice.

CONCLUSION

The recent establishment of the High Level Manpower Committee and earlier noted problems identified by the Manpower Committee and the production of a Five Year Development Plan (1970-1975), are healthy signs of Saudi Arabia's policy to explore the relationship between education and manpower needs. In this way, an attempt may be made to harmonize, or if possible integrate, economic planning, manpower planning and educational planning.

"Each of these three fields was formerly regarded as a separate entity, but they have extended their bounds to such a degree that demarcation disputes have now been superseded by a wide measure of cooperation requiring economists, manpower experts and educationists to rethink their concepts, their systems of classification and their methods of analysis in order to arrive at a broad approach to the question of development.

"Manpower planning is a vital element in a rational policy of balanced economy and social development. It is the indispensable complement to material investment planning and educational planning. It might be briefly defined by stating that its aim is the development of human resources, and its method the correlation of total manpower requirement with total material and human resources. In this respect, manpower planning has

several affinities with economic planning, it calls for definition of the main alternatives for a long-term manpower policy, forecasting of quantitative manpower requirements (how many workers in each sector of activity) and qualitative indication (by level of skill) of the training facilities needed. It must also decide the various stages of implementation and what each of them will cost."[1]

Furthermore, manpower planning calls for the establishment of priorities, not only as regards particular occupations but also for the various levels and types of training - e.g. instructors, supervisors, technicians, semi-skilled and skilled workers. A long-term policy should be adopted to set up a regular system of vocational training capable of providing all the new entrants to the labour force at the various levels of skills required by the country. It will be some time before this situation can be reached in a developing country such as Saudi Arabia, but just because of this, the foundation for such a system must be laid early.

Thus, emphasis should be placed on providing an appropriate foundation to ensure the Saudi candidates for employment will come to the labour force either trained for a particular occupation, or readily trainable to perform particular or general functions. Using that approach to manpower

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1. Economics of Manpower Planning, A Symposium, edited by M.R. Rinha, Indian Institute of Asian Studies, Bombay, 1965, pp.5-6.

development, from 12 to 20 years are required, under acceptable educational and cultural conditions, to produce the skills required by individuals seeking employment in a complex developing Saudi society. Thus, the educational and cultural environment with which new Saudi elementary students began to interact in the mid-1960s, strongly influenced the development of human resources which will very likely not be available for productive enterprise until about 1985 A.D. (1405 A.H.) Obviously, there is an urgent need to assess future manpower requirements and to determine the most appropriate educational and cultural environment in which to produce properly trained Saudi manpower resources. Errors in judgment related to needs and programmes to fulfil these requirements can hinder development efforts for several decades. This immediate proper planning in tripartite elements of manpower, education and economy is essential and imperative.

"Since manpower planning is based on the application of foresight, the first step in any planning programme is the development of research, so as to improve the forecasting, by skill categories, of demand and supply for the nation and for particular industries and areas over, say, the next decade. Such projection can be in terms of rough magnitude and relative changes or trends. It is, however, desirable to make quite explicit the assumptions on which the projections rest, for purposes of their later

revision and of improvement in the methods of manpower forecasting."[1]

The High Level Manpower Committee, recently established, has the first major task to work up a basic description of where Saudi Arabia is at present in terms of manpower, and it must realistically take account of the stage the Saudi society has reached and the acceleration with which it is, or wishes to be, moving towards a later stage. A concentration on the forms of cultural education useful in ennobling leisure time, for example, which is perhaps appropriate for a highly developed society, is probably a conspicuous extravagance for a society, such as Saudi Arabia, desperately trying to make transition from a traditional to a take-off stage of economic development.

It may on first consideration appear somewhat incongruous to classify Saudi Arabia as being in a state of transition from a traditional to a take-off stage of economic development in the light of the strength and dimensions of the oil industry as a component of the economy. But whilst the per capita income of the country reflects the economic competence of the industry, the majority of the population live lives dominated by traditional values, skills and attitudes. In this respect the country is properly to be regarded as in a transition stage which involves its own set of educational problems. Furthermore, it must be reiterated that the modern sector is largely dependent upon

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1. Richard A. Lester, Manpower Planning in a Free Society, Princeton University Press, U.S.A., 1966, pp.6-7.

expatriate skilled manpower.

Thus, the task of the High Level Manpower Committee has three parts: "(1) making an inventory of the occupational skills presently found in the labour force; (2) establishing a reasonably accurate and complete picture of the country's educational system, the largest and most important skill-producing resource in any country; and (3) making an inventory of all the training institutions or programmes that exist outside the educational system, including all agencies (public and private, foreign and domestic) having formal skill-producing activities." [1] These are essential "tooling-up" tasks that must be done before one can talk sensibly about what ought to be done next.

"Besides, it may be that in estimating the future demand for different grades of the work-force, the manpower experts will have taken into consideration the availability of other factors in producing wealth, such as the availability of natural resources and capital to provide tools and machines for the labour force."[2]

If Saudi Arabia's major problem -- critical skilled manpower shortage -- is to be solved, in addition to the required fulfilment of the

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1. George B. Baldwin, Planning and Development in Iran, The Johns Hopkins Press, Baltimore, U.S.A., 1967, p.143.
2. L.J. Lewis and A.J. Loveridge, The Management of Education, Pall Mall Press Ltd., London 1965, pp.100-101.

above requirements, a policy of decentralization is desirable. The need for this is partly due to the vast area of the Kingdom and inadequate transport communication facilities. In addition, it is clear from experience that a highly centralized structure cannot meet the full requirements of development planning. The data required at even the preliminary stages of plan formulation and the mapping out of a development strategy are such that a central bureau of statistics must have recourse to reliable information of the local and intermediate level. Furthermore, as Mwingira and Pratt have pointed out, "Even if a small number of high level administrators, planners and inspectors can be found through external aid channels to carry out executive and advisory functions within the central government, there is no truly acceptable substitute for local officers in the most senior posts, where responsibility for many decisions must be taken, or in the large number of posts in the field, where close acquaintance with local conditions and numbers adequate to maintain effective contact are prerequisites for access."[1] It is true that they were speaking of educational planning, but the principles hold good in all other aspects of planning.

However, planning activities in Saudi Arabia have not as yet found expression in any formal national development plan beyond allocations to major projects either through the regular budget or the development

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1. A.C. Mwingira and Simon Pratt, The Process of Educational Planning in Tanzania, Unesco-IIEP, Paris 1967, p.21.

budget. The main thrust of the development effort is towards modernization of the country, creating the base for a more diversified national economy and for the rapid development of its human resources, now at a relatively low level of education and skill.

There are, however, many factors inhibiting the advent or furtherance of the economic, educational and manpower planning in Saudi Arabia. For instance, current knowledge about the demographic situation and prospects of the country is still scanty. More generally, information and data of all sorts are seldom available on a regional basis, national accounting is still at an early stage and regional accounts are still far from becoming available. In most cases, even the types of data most needed for regional planning have not been identified. Statistics below the national level are not available even for existing administrative regions, and in the absence of such statistics it is difficult to project growth rate for specific areas.

This is in addition to the scarcity of trained personnel. This problem is not confined to Saudi Arabia -- though it is most acute there -- it exists in varying degrees in the other countries as well, even in those having a well established system of higher education, because the problem of personnel is not simply one of a scarcity of educated persons. As a result of the structure of the educational system and of the demands made on those who can go through advanced studies, exceedingly few are the persons who

become professional economists, or statisticians, financial or market analysts, e.g. specialized enough to help meet the technical requirements for the formulation and implementation of plans and programmes,[1] (see Table 25 - Yearly Output from Riyadh University). Such scarcity thus affects the ability of the Government to plan at the national level; recruitment at the regional and local levels is even more seriously affected.

Saudi Arabia thus has a variety of difficulties to overcome before it can initiate a proper manpower planning process, and since it cannot educate and train all its people and it could not immediately absorb them into the economy even if this were possible, and since also the economy cannot grow without an increase in the number of appropriately qualified persons, various other steps have to be taken.

It is profitable for Saudi Arabia, at the present stage of socio-economic development, to consider the problem of manpower development in terms of short and long-term educational investment. There can be little doubt that the most immediate short-term returns can be obtained from investment in adult education, namely functional literacy programmes, as previously identified. On-the-job training in metalwork, engineering, and building trades, agricultural extension, apprenticeship

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1. Studies of Selected Development Problems in Various Countries in the Middle East, 1969, U.N., New York, p.91.

schemes, and all the educational activities which go with community development and vocational training centres (see Table 19, Vocational Training Centres, and Table 34, The Establishment of Community Centres in Saudi Arabia) which will obtain results in months, whereas schemes involving formal education may take ten years or more to mature.

Such a short-term programme, if properly communicated and related to the people's expectations, can serve to modify attitudes towards certain types of manual work and can also reduce the prevalent frustration and unrest of the unemployed by directing their energies into constructive channels.

The very nature of development process in Saudi Arabia creates relatively greater immediate need for technicians, public health workers, transport workers and agricultural technicians and mechanics who can apply technologies than it does for technologists. The immediate need is for technicians to operate technical equipment purchased from the more technologically advanced countries. The greatly needed skilled technician can only be supplied in adequate numbers by properly planned and supported vocational and technical programmes and training centres.

The shortage of trained mechanics and technicians has resulted in much of the modern agricultural equipment purchased by the Ministry of Agriculture and Water Resources in 1964, having fallen into disrepair.

"However, the training of such personnel should be planned as a part of national development programme, and be based on an assessment of manpower needs. Next, it should be flexible enough to allow for changes in the pattern of production and keep pace with technological advance. It ought to be regarded as a continuous process, linked with the programmes of general education. It should be related, as far as practicable, to the place of work and the worker's personal development. Not least, it should command the widest possible support of the community. Above all, training must be adapted to local needs and conditions."[1]

It is of paramount importance to absorb the main surplus of primary school leavers into newly created professional openings in agriculture and related fields, and to a much less extent in industry. This would involve vocational training undertaking on the part of the Ministries concerned, and Commerce, Industry, Health and Agriculture.

The private establishment must be encouraged to adopt "on-the-job" training programmes. To do this they may require assistance from the Ministries of Commerce and Industry, Labour and Social Affairs, and Chamber of Commerce and the Universities.

In the meantime, qualified instructors needed for training have to

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1. Education and Economics, Science and Technology for Development, Vol.VI, U.N., New York, 1963, pp.87-88.

be provided. In addition, the employers, both public and private, need to take steps to upgrade their existing manpower through apprenticeship schemes, on-the-job courses and the like. It is estimated that 800,000 persons in the existing Saudi labour force need upgrading, (see Table 12).

In most firms, the intake of apprentices for internal employment is generally smaller than could be accepted for training. From the socio-economic point of view, therefore, it is desirable that firms should be encouraged to accept as many apprentices as are likely to be required by the economy at large. There is thus a good case for the government, in consultation with industry, to initiate apprenticeship regulations and schemes to make the most of available resources.

However, this does not suggest that Government vocational and technical schools do not have a vital role to perform. It does suggest that the latter should concentrate on developing training programmes to meet longer-term needs, while the suggestions above can be conducted to meet critical short-term needs.

Educational Planning

Because of the close interrelations between education and manpower development, the education planners must be fully cognizant of the economic trends, future manpower needs and the changing skill requirements of the various occupations, in order to make correct decisions

about any necessary changes required in the educational programmes.

Satisfactory development is not likely to be possible so long as there are inherent weaknesses in the economic-socio-educational system such as the dropping out of a high proportion of school children before they have completed their studies, the inability of the economy to absorb the pupils thus dropping out at the various levels, and lastly the major economic handicap -- the persistence of a high illiteracy rate, (see Illiteracy Rate among Saudi Workers, Table 35). To be rid of these evils, it is essential first of all, to regard educational development and overall development as one and the same process. This means that the Government has to approach the systematic planning of education in the context of the general planning of development.

"But the preparation and the subsequent execution of an education development plan remains the concern of the Ministry of Education, which itself needs a small but expert staff devoted to the collection of precise figures relating to all aspects of the past and current performance of the system of schools and their costs to be able to plan the future steps in the light of the current performance, the overall objective and the future available."[1]

However, educational planning is not a simple matter of designing rigid blueprints for the future. Instead, it is a process, a continuous

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1. L.J. Lewis, op. cit., p.102.

process involving a style and philosophy of educational administration as much concerned with implementing well-conceived plans as with designing them.

Modern educational planning does not suddenly spring full blown from an official decision to institute planning. It must begin modestly and grow through successive stages over a considerable period of time.

"It may not be possible to rely completely on the likelihood that the future will turn out exactly as set down in the plans, and therefore a plan should always be kept up to date by modification. A plan is a precise declaration of how and when various developments are to be made. Its aim is often described as a target, but a target by itself is not a plan and the two things should always be distinguished."[1]

The experience of planning in many countries has shown that even well-conceived and technically sound plans have often failed to fulfil the expectations with which they were launched, mainly because the administrative apparatus was not adequate to the new tasks. Sound administration has a key place in the structure and articulation of national education system. The reorganization and strengthening of the administration should precede the stage where a plan is put into consideration.

In addition, it needs a sound research basis, which should cover both educational and other sectors. Data on new techniques in education,

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1. L.J. Lewis, op. cit., p.99.

of new ways of school organization, results of experiments, social and economic tendencies, all these form the research basis of educational planning.[1]

In so far as educational planning in Saudi Arabia is concerned, it is still in its initial stage though a Department of Education Planning in the Ministry of Education has recently been established.

The lack of an accurate census of Saudi population (see Table 12, Chapter V) makes it impossible to provide satisfactory estimates of future school enrolment. Such estimates would help to avoid the risk of unexpected surprise haphazard guesses, or impractical policies adopted without sound bases. As educational planning is essential to well-balanced economic and social development, so are estimates of future school enrolment an indispensable element in educational planning.

If, for example, we have full, reliable, and up-to-date figures on birth, deaths, and migration of the population over a long stretch of years, as well as data on school enrolment and attendance by sex, age, and grade of pupils from census enumerations and school records for an equally long period, it would not be difficult to attempt relatively long-term estimates of future school enrolment for the students who will be graduating from universities twenty years hence, or

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1. UNESCO, An Asian Model of Educational Development: Perspective for 1965-1980, pp.85-87.

those who will be completing their secondary education fifteen years from now, or even most of the children coming out of the primary schools in the next ten to fifteen years. In other words, we need estimated numbers of births for only a few years ahead in order to have basic population data from which to derive some estimates of future enrolment in primary schools up to ten years, in secondary schools up to fifteen years and higher education up to twenty years.[1]

Whilst, as is indicated in Table 20, the expansion of primary education in Saudi Arabia compares more than favourably with that of Jordan, Syria, Kuwait, Lebanon and Iraq, it has not been matched by parallel development at other levels.[2] Even so, this development of primary education in Saudi Arabia can provide a starting point for the rapid extension of secondary general and technical education, with a view to training the technicians and skilled manpower needed for present and future development.

If manpower planning is to be taken seriously, then some coercion is inevitable in controlling the size of secondary school outputs and the nature of their training before allocating them to different middle level occupations.

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1. Estimating Future School enrolment in Developing Countries, UNESCO, Paris, 1966, p.10.
2. Studies of Selected Development Problems in Various Countries in the Middle East, U.N., 1969, p.94.

It is recognized that the supply of higher level and middle level manpower is of crucial importance to the development of the country. Not only are teachers, doctors, architects and engineers needed, but administrators, journalists, secretaries and skilled artisans are also needed.

"Manpower surveys with their necessary projections do not directly affect the earlier stages of education, for no one is likely to say -- although it could be said -- that reading and writing should be denied to manual labourers and taught only to those who would use those skills at work. Such effects as are felt at the primary level are indirect and result from the influence that later stages of schooling have upon the primary stage. The real impact upon education for manpower surveys occurs therefore at the secondary level, because the 'end products' of secondary schooling are very likely to be capable of potential categorisation as clerks or technicians.

"As secondary education proceeds, specialisation inevitably becomes more pronounced and categorisation as social and natural scientists, linguists, mathematicians and historians is made. But this is still inadequate in terms of the normal manpower survey which uses categories as specific as agronomists, mechanical, electrical and civil engineers, doctors, pharmacists, surveyors and teachers. It becomes

obvious that it is only at the level of higher, or post secondary education that it is possible to achieve detailed conformity, in numbers and curriculum, between teaching and manpower requirements."[1]

So long as the localization of labour force in certain positions and sectors, which requires relatively little education and experience, can be achieved through the implementation of short-term programmes, and those sectors can be filled quickly as qualified Saudis are available, the real acute problem facing Saudi Arabia is to establish the structure of forward demand for higher level manpower. In this way, the logical strategy would be to stress higher education and the expansion of secondary schools to prepare students for it, since the key positions, at present held by foreigners are those requiring some kind of tertiary level preparation.

If the replacement schedule is combined with an estimate of additional manpower needed for expansion, it may then set the targets for future manpower development in various sectors.

The new growth of Saudi Arabian universities, namely Riyadh University, King Abdul Aziz University in Jeddah, and the Islamic University in Medina, certainly meet an urgent need to train not only the teachers required for the advancement of education, but also the high level personnel, without whom Saudi Arabia cannot develop from within.

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1. L.J. Lewis, op. cit., p.96.

But there are other contributions the universities should be making to society. "The first consists of promoting pure and applied research in the natural sciences and in human science. For it is research that keeps universities alive and gives them their originality and intellectual independence, and it is through research that universities are able to take an active part in the general development of the nation. Then comes the part which they play in the popularization of science, the spread of culture, life-long education and adult education. Lastly, universities fulfil a vital role in international co-operation, fostering mutual understanding by exchanges of teachers and students."[1]

Since there are no statistics or methods available in Saudi Arabia, as already identified earlier, to correlate the rate of economic growth to that of educational development, and the large-scale programmes of education in the Kingdom have only recently been introduced, it is as yet difficult to appreciate their economic impact, which is not immediately apparent.

"It should be pointed out that education cannot be really effective unless the national economy is able to absorb all school leavers. It is, therefore, vitally important that this capacity of absorption should be expanded to the utmost, both in each different sector and in the overall

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1. Unesco Chronicle, May 1966, Vol.XII, No.5, "The Task of Education in the Arab Countries", R. Maheu, p.184.

economy of the country."[1]

The task confronting the realistic planners, therefore, is not to determine what is desirable or urgently needed, but rather todecide what is absolutely indispensable for social and economic progress and which of the many desirable and urgent measures can be temporarily post-poned.

In one way or another, all the objectives have to be hammered into a strategy for educational development, and then this has to be elaborated in all the practical details of planning schools, enrolment, classes and courses. How well the eventual programme interprets national priorities and objectives will depend on the clarity with which the objectives are perceived and formulated, the skill of the planner, and the relative strengths and interests of the parties involved.

Saudi Arabia cannot move rapidly. For one thing, there are serious obstacles to any general technological and industrial advance in an underdeveloped country like Saudi Arabia. The absorption of new technology is a particularly difficult and costly process, even in the case of the handling of relatively simple technical instruments. It is necessary to have a basic minimum of education and literacy among the workers and producers. Therefore, a whole process of education in Saudi Arabia has to be developed at all levels, and the entire educational field requires to be adapted and

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1. Unesco Chronicle, April 1966, Vol.XII, No.4, "The Economics of Education in the Arab Countries", Rachik Avakov, pp.142-147.

extended. Even more important, the educational system must be open in its whole range of options to all social classes. Young people should be made aware of the political, economic and social realities of the age. Those already in employment should undergo constant re-education to adapt themselves to new techniques. The full development needs more than those people who can carry out the technical tasks of development; those who are capable of building a developed society are even more necessary. This requires the energies and abilities of a great number of citizens, and this means a revolutionary increase in the numbers of educated persons particularly. Saudi Arabia possesses a manpower force whose capacities in relation to modern techniques are often non-existent. This means that a minimum degree of skill must be provided to the greatest possible number, and this must take considerable time.

There are other steps which must be taken to solve manpower problems in Saudi Arabia, such as increasing the number of teachers, bringing about curriculum reform to relate the content of education to the new needs, the full utilization of the existing skilled and semi-skilled Saudi labour force, the proper deployment of expatriate labour needed for certain types of development, and the modifying of prevalent attitudes which inhibit readiness on the part of Saudis to undertake certain kinds of work. All these are outlined respectively below.

Reference has been made earlier to the fact that Saudi Arabia has mainly been dependent on foreign teachers of whom over 50 per cent of the existing teaching force are non-Saudis.

For an educational system to be truly national, reflecting the ethos of the nation, responding with sympathy and understanding to changing circumstances, perpetuating and strengthening loyalties, it must be organized, administered and staffed by men and women, whose hearts and minds are one with the nation, namely Saudi nationals.

Therefore, the co-ordination of efforts between the High Level Manpower Committee and the Ministry of Education, which is responsible for educational planning, is essential if training is to be related adequately to manpower requirements. Within the education plan it is necessary to investigate the problem of teacher supply and to devise and adopt a comprehensive plan which will make the Kingdom less dependent upon expatriates.

In the meantime, a thorough study should be conducted by the Ministry of Education in consultation with the High Level Manpower Committee to determine: the estimated number of teachers needed for each of the next several years by Educational District, the major subject area to be taught and the level of training; the present supply of Saudi teachers by Educational District, the major subject area to be taught and the level

of training; the estimated number of Saudi teachers expected to be produced in existing teacher training institutions in primary and secondary education, during each of the next several years, by major subject area to be taught and the level of training to be completed; and the type of training institutions, the number of existing Saudi teachers who need to have their teaching skill upgraded during each of the next several years by subject area; the likely needed teachers during each of the next several years by Educational District, the major subject area and the level of training.

A study should be conducted to examine the content of curricula of all educational levels, particularly primary and secondary education, e.g. how closely the present curricula are related to a student's future vocation or to specific occupational content.

"There is an urgent need for consideration of just why we teach this and that, and what the purposes of the curriculum are. Clearly, one objective is to teach the skills which enable the young to cope sensibly with life in this modern age. To play a useful part they need not only the recognized "tool" subjects, but also an elementary knowledge of electricity and wireless, ability to read maps, some domestic training, for boys and girls, and so forth."[1] In a world of growing complexity, it is essential

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1. M. Reeves, Growing Up in a Modern Society, University of London Press Ltd., 1946, p.61.

that people should be able to cope, and it is the school, mainly, that must do this for them.

"All children in underdeveloped countries - Saudi Arabia is one of them - need to acquire what might be described as a 'sense of science'. Agriculture is an important part of economic life, so some knowledge of biology should be taught at least in the rural schools. And all the children need to be given some knowledge of public health and personal hygiene. In the urban school particularly, elementary physics, including principles of heat, light, electricity, and perhaps mechanics, should be studied the last two years of primary stage. By simple scientific explanations of commonly observed phenomenon -- e.g., what causes thunder and lightening -- a great deal of misinterpretation can be overcome. Fear of the supernatural must be conquered through a knowledge of natural law, if men and women are to take their destinies in their own hands."[1]

However, in devising the broad general curriculum, the specific requirements of the vocational and the technical school have to be borne in mind. These requirements include what the secondary school may reasonably expect of its entry from the primary school in the fields of reading, writing , oral expression, creative and manipulative skill, training in observation and habits of eager inquiry. On this foundation, the secondary

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1. Stephen Enke, Economics for Development, Dobson Books Ltd., London 1964, p.387.

school has to build in order to meet several needs, one of which is the specific standards and attainments which vocational, technical and professional institutions require from those starting a training career.

It would, in fact, be very difficult to continue the extension of education and its adaptation to economic and social development within the rigid framework of the traditional school and existing methods and curricula (see traditional education in Saudi Arabia before the introduction of a modern education system, Chapter III).

While varying the quantity of education, it is also necessary to vary the nature of instruction and, consequently, its output and costs. The problem thus becomes infinitely more complicated, but only in this way is it possible to find a solution.

Therefore, "attempts must be made to develop skills, attitudes, habits of mind and the kinds of knowledge and understanding that will be the instruments of continuous change and growth on the part of the young person. The society will have fashioned a system that provides for its own continuous renewal."[1]

In the first place, it is suggested that the curriculum reform should be closely related to real needs in manpower and development, to the cultural situation of Saudi Arabia and to the psychological requirements

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1. J.G. Saylor and W.M. Alexander, Curriculum Planning for Modern Schools, Holt, Rinehard & Winston Inc., N.Y., 1966, p.47.

of each group. More systematic use should be made of the new techniques available, such as programmed instruction, educational television and teaching machines. Syllabuses require to be modified so as to bridge the gulf between the literary and scientific cultures.

The need for curriculum modification is urgently required to meet the changing economic and social environment. This is partly due to the difficulties experienced by some graduates in locating employment for which they presumably were trained. This indicates that existing curricula are not designed to fulfil training needs. Therefore, a careful determination should be made of the function to be performed by each educational and training institution at the various levels in the developing Saudi society, and the function statements should be used as a basis for curriculum development.

"Out of the curriculum development studies of the last decade has come the realization that much more is needed than the mere production of new proposals for projects to be carried by subject specialists. So much so, that it is now accepted that effective curriculum development and implementation must be rooted in a partnership between scholars, teachers, administrators and students. Yet to be fully realized, is the concept that the partnership must include the parents and potential employers as well. Success in enlisting the co-operation of the adult sector of the

community as represented by the parents and the employers will depend in part upon their being made cognizant of the contribution that education must make to the establishing of values and attitudes necessary to ensure that the individual sees himself as a member of society with responsibility for making his contribution to the well being of the society as well as to his own interests.

"One way in which the community at large can be involved in curriculum development work is to invite representatives of employers and other lay interests to take part in curriculum development conferences as was done by the Federal Government of Nigeria for the Curriculum Develppment Conference in September 1969. Such participation can result in the educationists gaining new insight into what the public expect of the products of the school system."[1]

The critical problem caused by the shortage of manpower in Saudi Arabia is reinforced by under-utilization of the existing supply of manpower. Effective utilization of personnel has not yet been achieved in the Kingdom. Numerous examples can be cited, for instance, the Government personnel who are seriously under-employed or improperly utilized. What percentage of the 120,000 Government employees produce

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1. Edmund J. King, The Teacher and the Needs of Society in Evolution, Pergamon Press Ltd., Great Britain, 1970, p.310. (Hunger - The Perspectives of the Third World, by L.J. Lewis.)

efficiently for six hours each day? For four hours each day? or for even two hours each day? Anyone who does not produce effectively for the major portion of the day is under-employed. This under-employment is more serious in a country such as Saudi Arabia which suffers extreme shortage of trained personnel.

With government expenditures for personnel which amount to 1.4 billion Saudi Riyals per year, nearly thirty million riyals could be saved yearly in salaries alone, if employee efficiency could be increased by only 20 per cent. The actual cost to the government through inefficiency and carelessness resulting from improper attitudes, inadequate training and under-utilization probably runs from 50 to 60 million riyals a year.

This is generally a result of improper attitudes, inadequate training and over concern for status; the tendency to use a person to perform one job when he is trained to perform another, as in the case of many university graduates and the graduates of vocational schools who accept positions in the Government Services unrelated to their training; improper management of personnel, for instance, the heads of departments and supervisors do not always make a conscious effort to utilize their subordinates effectively; some persons who are properly trained to perform useful work are not available for it because they are engaged in other tasks unrelated to their skill and knowledge competence.

This situation requires thorough investigation and research work conducted by the General Personnel Bureau in consultation with the High Level Manpower Committee and the Universities and the Institute of Public Administration, to ensure that available personnel are assigned in accordance with the needs of public service.

In the meantime, consideration should be given to the adoption of a more flexible entry policy for expatriate labour needed to help development. This might be accomplished by making it relatively less restrictive and easy for a firm to import its manpower needs for a specified period of time provided the firm undertakes the systematic training of Saudi personnel.

In addition, Saudi Arabia is in need of foreign technical assistance to help fill gaps between the skill requirements implicit in developing programmes and the domestic stock of skills. And it is also needed to strengthen and supplement the country's capacity to produce new skills through its education system. Thus, foreign help can supplement both the stock and flow, in the chosen development objectives, where the authorities have the close and continuing knowledge of them and of their development aspirations.

There is a problem of the attitudes of Saudi labour force towards performing certain types of low status occupations and other undesirable

attitudes towards care of public and private property, quality of work performed, integrity, accepting responsibility, serving the public, working in private industry, etc.

In this regard, it seems necessary for this problem to be investigated through the development of information, communications and education programmes, to modify attitudes which impede the development of the Kingdom. There should be a conscious effort to use all positive elements to shape personal motivations in order to provide a positive influence for the development and maintenance of an enlightened and efficient labour force.

In the light of this problem, the High Level Manpower Committee should co-operate with the Ministries of Education, Information, Labour and Social Affairs, in preparing a programme of economic education for use in the public educational system and for mass dissemination by radio and television. The programme should be designed to inform young and old of economic efforts in the Kingdom and to modify existing attitudes towards employment in skilled, semi-skilled and unskilled occupations.

"One does not revolutionize agriculture with vocational schools, new patterns of farming will not take root among apathetic peasants. Innovations in production depend on local climats of readiness for change, alertness to markets, access to practical instruction and appreciation of schools."[1]

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1. Don C. Piper and C. Taylor, Post-Primary Educational and Political and Economic Development, Duke University Press, Durham, N.C., Gt. Britain, 1964, p.11.

It is not enough simply to train individuals for a profession in which they will automatically find a job; nor is it sufficient, in a society which has remained traditionalist in character, that a profession should be remunerative enough to attract young people.

"The function of the school is not merely to prepare pupils for a specific type of employment, but to develop in children the ability to accept new ideas and adapt to new situations, thus enabling them to apply their abilities in different directions, as opportunities and needs occur. It has been said often enough that the aim of formal education is to teach pupils how to learn. As far as apprenticeship and technical training are concerned, these can best be organized in co-operation with the employers. The problem in the developing countries is not just to train workers in a particular skill or speciality, but to make the most effective use of existing manpower in the light of the country's many and varying needs."[1]

Lack of material capital may hinder economic growth; lack of social capital can be worse hindrance. Bilateral arrangements and international aid may provide the former; if for a period of time. Expert advice on how to use material, whatever its source, may be available from within the country; if necessary it can be readily imported. However, it

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1. Unesco Chronicle, May 1967, Vol.XIII, No.5, "Aspects of Educational Planning", V. di Lipski, p.198.

is the social capital of the country which can convert material capital and advice into work, into national income and into an improved standard of living. This social capital consists of human energy, determination, personal discipline, effective adjustment to the new demands of the new economy, and what is more the existence of talents in those positions where it can develop to the maximum effect.[1]

An education programme that fails to provide the elements of understanding, character and judgment necessary to deal with new situations, will ill serve the national purpose. An education for today and tomorrow must be an education which prepares people for social changes as yet unforeseen, and which prepares them not only in terms of skills, but in terms of character, perspective and a personality capable of adapting wholesomely to new situations.

Thus, the education system has to be orientated towards the creation of the desire in the community as a whole for socio-economic development and the willingness to make sacrifices to pay and work for development schemes. Its task lies not only in inculcating the right attitudes in young people to manual skills and technical achievement and in laying a sound foundation for those skills. It also lies in persuading the community, through regular programmes of general education, as one of

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1. Meeting of Experts on General Secondary Education in the Arab States, Unesco, Tunisia, 1962, p.17.

several media, to modify certain modes of life which have been theirs for centuries and to develop new modes consistent with the changing socio-economic conditions. The values built into the school system, and if strengthened by use of the mass communication media, can have a profound effect on the commitment and involvement of the population in development.

Reflection on the current state of educational planning in Saudi Arabia as revealed in this study suggests that the next stage of progress must involve a move from what is essentially an economist approach to what Gunnar Myrdal has defined in his book Asian Drama: An Enquiry into the Poverty of Nations,[1] as an institutional approach, by which he means a concern for the economic in the demographic, social and political setting. Levels and modes of living, attitudes, institutions are all most relevant to planning for economic and social development. Up to the present the planning has been dominated by the usual modern approach involving the scientific and popular discussion of economic problems. Hence the overwhelming concern with the skilled manpower factor; whilst not denying the importance of this factor, the need for putting it in the broader context is without question explicit in the Saudi Arabian situation.

In one other respect the Saudi situation reflects another aspect of planning which is now receiving wider attention, namely the danger of divorcing the planning process from the execution and administrative process.

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1. Gunnar Myrdal, Asian Drama: An Enquiry into the Poverty of Nations, Penguin Books, London, 1968.

Dr. C.E. Beeby questioned the validity of the distinction between planning and implementation, "The essence of what I want to say is that the carrying out of an educational plan must never be thought of as something distinct from the making and adopting of the plan".[1] The greatest obstacle to the development of education in Saudi Arabia may well prove to be the institutionalising of the necessary administrative reforms to ensure that administrative competence and understanding without which the best of planning is of little effect.

However, the question of raising the standard of living of the Saudi masses cannot be dealt with purely by means of education. It requires a much wider programme which involves political, economic, health and social radical reforms sponsored by progressive authorities. Education would then be one of the chief agencies for the realization of such programme. "Just as society determines the content and the method of its educational practice, and imposes certain limitations, so education determines the form that society is to take, the thoughts that it will think, its attitudes and its disposition; and education does that much more for society of tomorrow than for the society of to-day. To-day the life of educational institutions is an enrichment of the life which all enjoy, but it is tomorrow that their deeper influence will be felt and that the society which they have already created

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1. Seminar on Strategies for Implementing Educational Plans in Countries of Various Stages of Development, Report by Maureen Woodhall, Unesco National Commission for the United Kingdom, 1968, p.18.

will come into being."[1]

The students will eventually make up the adult component of the population. There are groups of them with clear-cut destinations. Some are going to the university; others will pursue courses in one or other of the range of technologies that are available. Still others may seek to enter the crafts or trades under apprenticeship arrangements. There is, however, an increasingly large group who do not have such clear-cut destinations. It is this group that will be most affected by a changing technology. It is this group that will provide the society with the greatest challenge as it moves gradually into the technological age. Meeting the needs of this group will require imaginative planning to help them solve their problems that lie ahead.

Therefore, there is certainly a great need in Saudi Arabia to examine carefully the type of education that fits the overall development of the large majority of the population and would help to improve the standard of agriculture, of health, of social and political consciousness, of citizenship and of character. Education is much more than preparing people for work. The responsibility of education to form manpower must, therefore, be integrated with its broader and primary responsibility to form civilized human beings and good citizens. 'The process of education is an apprenticeship for good

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1. M.L. Jacks, Education as a Social Factor, Kegan Paul, Trench, Trubner & Co. Ltd., London 1937, p.3.

citizenship and the more the school can be in miniature a reproduction of the large community outside, the more practice in actual citizenship it can provide, the more its objects can have of social value, and the particular social value that the particular form of State requires, the more these things are done the better."[1] People are more important than the political system, economics and constitutional planning. These institutions are subject to an insidious erosion if the people have not been adequately educated, because in their hands lies the execution of these schemes. The provision of preparing a good citizen must be the top priority to build a healthy society because the society is dependent on the constructive attitudes and capacities of its members. The task is not as easy as it seems to be, the reforms have to be made within the people themselves before the physical alteration of the society which is a fashionable interest of the hour. It is damaging materially and spiritually to be complacent and contented with what has been bequeathed to the people by their ancestors. Worse than that is to tantalize the new generation with the grandeur of the past as a pretext to be used against apathy, indifference and backwardness prevalent in the society. Yet this looking backwards is an excuse for many for unwillingness to face change and development. Social and economic progress cannot be based on the glorification of the past, nor can it be based on indiscriminate

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1. M.L. Jacks, op. cit., p.9.

transplantation of ingredients of foreign cultures, nor does it exist in a variety of Western paraphernalia of imported goods. Real progress lies in receptiveness and flexibility of the indigenous culture which is founded on a sound ideology rooted in the ideals, values and aspirations of the nation.

It is undeniably necessary to look back at the past heritage to gain lessons from experience, but it has to be recognized that the people are living at a stage of human history which is dominated by new experiences arising from scientific and technological development. The tangible changes which have taken place in every aspect of human life have to be taken seriously into account. The impact of modernization in the society will mean changes, but the changes should hopefully be adaptations of the old cultural pattern, old value systems and historic symbols, so that these social moorings will not be swept away. Flexibility, adaptability and a readiness to seek new routes through life are conducive to success in the technological age. It is of paramount importance that people must be prepared and educated in institutions adhering to values dedicated to making provision for them to live in an orderly, hardworking and stable society. These problems pose challenges to the total school system.

The past heritage, values and traditions can only be renewed, adapted and extended if people can make response within their framework of the past heritage rather than simply speak in its praise. Once members

of the society see that it is possible for their own people, brought up in their own cultural tradition, to respond to new concepts and resources, there will be enough evidence that their traditions have the vitality to respond positively and constructively to new demands. And the constant self-tormenting preoccupation with the question as to whether the old tradition is still applicable or still viable will in the course of time disappear. With it there will be a decline of that empty self-praise so lacking in conviction which is common among intellectuals of underdeveloped countries.

Today there are two ppposing ideas pressing upon Saudi society. These two main trends have noticeably come to light since the introduction of science and technology into the country; one is conservative in character, the other modernist. The underlying tension of these two segments of the population exists in every developing country, though the strength of the former in Saudi society is abundantly clear in every aspect of the community. This is largely due to the organic ties between them and the State and furthermore, their influence has been reinforced by the unique position of Saudi Arabia as the original homeland of Islam and the two Holy Cities.

The conservative forces are diametrically opposed to the secularists and regard Islamic values and beliefs as binding upon all Muslims as they have been for centuries. They insist on scrupulously observing the religious injunctions of Islam and believe any deviation from traditional

practice must be avoided. They hold that Islam is binding upon all believers for all time and that changing conditions do not constitute a sufficient reason for not adhering strictly to all the precepts of Islam. The supporters of this group are convinced that the present civilization is purely materialistic and that material things are what matter to it.

In the early years of the establishment of Saudi Arabia, the conservative forces were determined to uphold the social and religious status-quo and maintain their position in a period of persistent challenge. They sought to consolidate their position by accepting, with reservations, only certain forms of Westernization, particularly in the field of education. They were completely indifferent to the superior interests of their country and preoccupied themselves with nothing else beyond commentaries and super-commentaries on old texts and appeared to be ignorant of the needs and aspirations of their times. Their attitudes in the contemporary Saudi society have since then not changed very much. They are not necessarily influenced by the impact of the modernizing forces operating in the economic sphere, or, if they are, their tendency is to be conservative in the defence of the values they treasure. Whatever socio-economic developments may be sought through planning in general, as well as through educational planning specifically, they need to be paralleled by appropriate reinterpretation of the fundamental values in relation to the changing socio-economic conditions. This requires on the one hand the review of the theological thought and the renewal of its

expression in ways which will be understood in the new socio-economic context and the effective communication of the results of such review to the society at large and in particular to those members whose lives are made more complex by the mental ferment created through modern technology.

The latter group are the products of a modern education system at home and abroad and those who have directly and indirectly been influenced by Westernization. These modernizing forces admire Western civilization although they do not favour their total adoption and do not envisage a radical break with the traditional institutions, values and beliefs. They believe that the Muslims may be able to absorb modern science and technology into their way of life as it was in the golden era of Muslim civilization without suffering the disastrous loss of faith among the masses. These emerging forces are increasingly flowing, in varying proportion, from the rapid spread of education at all levels; from the explosion of communications and transport; from technical assistance; from the large number of foreigners working in the country; from the growth of a middle class made up of commercial, industrial and professional people. Most of these modernizing forces are strong and at work within the contemporary Saudi society. They are gradually and imperceptibly transforming the society in ways that will eventually support, instead of frustrate, educational and economic planning. This view is reinforced by the Government policy to

adopt the creative synthesizing spirit of Islam, which attained considerable height in the past, to be the target at which they aim to transform the traditional attitudes and, more necessary, assist the country to become a modern state.

The present Saudi authorities view problems from the modern standpoint, forging fresh rules of religious interpretation to be more consonant with the demand of the modern mind, reconciling the needs of the hour with firm allegiance to the past, justifying modern institutions by appeals to the Kuran and traditions of the Prophet. However, the necessity to conform to altered conditions of society becomes clearer and clearer and more and more insistent as the years go by. New demands arise, new problems call for solution, fresh administrative measures force themselves upon the attention of the people. All these have to be faced and met.

"In practice, however, material changes are bound to cause repercussions in the spiritual, moral and intellectual life of any community.

Western techniques, Western education, and Western nationalism are the main factors which influence and continue to influence the Muslim world. Industrialization, secular schools, and the idea that nationality, not faith, binds men together, are producing not only material upheaval, but also tensions which are at once intellectual and spiritual."[1]

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1. Year Book of Education, Evans Brothers Ltd., London, 1955, "The Idea of Guidance in Islam", A.L. Tibawi, pp.221-23.

Islam has, throughout history, involved interplay within the processes of society and the result has been a working compromise between Muslim and non-Muslim elements that reflects the conditions and needs of each era. Today one more compromise is taking place in Saudi society, the final form of which cannot yet be determined.

It is the role of a system of education in Saudi Arabia to help to strengthen and guide the transplanted culture which has brought the process of modernization into the society, and to understand this alien culture in terms of its wholeness and be conversant with the ways in which its institutions are adapted and not adopted to carry on. Furthermore, it is not only to know what the economic resources are, but what the habit patterns for exploiting them are; and finally what are the capabilities and interests of Saudi people, especially those which can be developed for their well-being and support. It is only at this point of understanding that the country can really begin to plan and put into effect an intellectual and successful educational programme, in terms of objectives, values, curriculum, budget and personnel.

APPENDICES

APPENDIX I

ESTIMATES OF ANNUAL AGRICULTURAL PRODUCTION IN SAUDI ARABIA, 1960-1963

Crop	Cropped Area (hec.)	Average Yield (kgm/hec)	Output (tons)	Average Farm Price (SR/ton)	Value (SR) (000)	Percent of Total Value	Percent of Total Value including Barley & Beersem
Wheat	89,890	1,437	129,171	460	54,818	9.9	16.1
Barley	29,182	1,653	48,237	380	18,330	3.3	-
Rice	1,789	2,354	4,211	360	1,516	0.3	0.4
Dukhun	15,200	1,022	15,534	330	5,134	0.9	1.4
Dura	34,578	1,007	34,820	260	9,053	1.6	2.4
Berseem	25,086	80,200	2,011,897	84	168,993	30.3	-
Others	5,290	800	4,232	300	1,270	0.2	0.3
Field Crops	201,015		2,247,786		259,114	47.3	20.6
Onions	2,161	10,301	22,260	400	8,904	1.6	2.4
Water melons	12,206	14,047	171,455	448	76,812	13.8	20.7
Tomatoes	3,692	11,778	43,437	812	35,271	6.3	9.5
Eggplant	1,067	6,000	6,402	540	3,457	0.6	0.9
Squash	1,614	6,000	9,684	540	5,229	1.0	1.4
Ladies fingers	1,133	6,000	6,798	540	3,671	0.6	1.0
Pumpkins	5,419	6,000	32,514	400	13,005	2.3	3.5
Green beans	345	6,000	2,070	400	828	0.2	0.2
Dry beans	286	6,000	1,716	400	686	0.2	0.2
Melons	2,465	13,239	32,634	400	13,053	2.3	3.5
Cucumbers	335	6,000	2,010	540	1,085	0.2	0.3
Snake-cucumbers	309	6,000	1,865	540	1,001	0.2	0.3
Other vegetables	2,100	6,000	12,600	400	5,040	0.9	1.4
Total vegetables	33,132		345,485		168,042	30.2	45.3
Dates	22,281		257,606	360	92,738	16.6	25.0
Fruits	11,487		34,461	960	33,083	5.9	8.9
Total:	267,915		2,885,338		552,977	100.0	99.8

Source: Economic Research Institute, American University of Beirut

APPENDIX II

TRENDS IN AGRICULTURAL PRODUCTION

(Area in hectares; Output in tons; Value in 1960 S.R. Prices)

CROPPED AREA

Crops	1949/50	Relative Share	1960/63	Relative Share	Compound Growth Rate (per cent)
Field Crops (excludes Berseem)	67,838	.71	175,929	.72	7.6
Vegetables	4,128	.04	33,132	.14	17.4
Dates	21,752	.23	22,281	.09	.2
Fruits	2,226	.02	11,487	.05	13.5
All crops	95,944	1.00	242,829	1.00	7.5

OUTPUT

Field Crops (excludes Berseem)	71,300	.20	236,235	.27	9.7
Vegetables	29,226	.08	345,485	.40	21.0
Dates	250,000	.70	257,606	.29	.2
Fruits	5,565	.02	34,461	.04	15.1
All crops	356,091	1.00	873,787	1.00	7.2

VALUE OF PRODUCTION (SR 000)

Field Crops (excludes Berseem)	25,303	.19	94,794	.24	10.7
Vegetables	13,816	.10	168,079	.43	21.2
Dates	90,000	.67	92,738	.24	.2
Fruits	5,342	.04	33,083	.09	15.1
All crops	134,461	1.00	388,694	1.00	8.5

Source: Economic Research Institute, American University of Beirut.

APPENDIX III

SAUDI STUDENTS ABROAD BY FIELD OF STUDY AND COUNTRY, 1969/70

Subjects	U.S.A.	Countries		
		European Countries	Arab States	Muslim States
Humanities	21	24	35	-
Education	45	8	41	-
Fine Arts	-	10	1	-
Social Science	244	40	60	-
Natural Science	64	46	3	-
Engineering	321	146	17	-
Medical Science	2	226	105	125
Agriculture	-	8	4	-
Non-specified	96	59	38	-
Total:	1,789			

Source: Educational Statistics, Department of Statistics and Research, Ministry of Education, Riyadh, Saudi Arabia, 1969/70.

APPENDIX IV

SAUDI GIRL STUDENTS ABROAD BY FIELD OF STUDY, 1969/70

Subjects	Undergraduates	Graduates	Post-Graduates
Humanities	-	10	3
Education	11	8	3
Fine Arts	-	2	-
Social Science	-	7	1
Natural Science	-	1	-
Engineering	-	1	-
Medical Science	-	55	3
Not Specified	-	11	-
Total:	116		

Source: Educational Statistics, Department of Statistics and Research, Ministry of Education, Riyadh, Saudi Arabia, 1969/70.

APPENDIX V

DISTRIBUTION OF PLACES & POPULATION BY SIZE OF PLACE: KINGDOM OF SAUDI ARABIA, 1962/63

Size Groups	Number of Places	Population		
		Total	Settled	Nomads
20,000 and over	11	830,086	828,503	1,583
10,000 - 19,999	11	139,730	119,870	19,860
5,000 - 9,999	23	153,774	146,039	7,735
2,000 - 4,999	100	298,374	249,549	48,825
1,000 - 1,999	201	271,405	227,534	43,871
500 - 999	495	339,023	277,194	61,829
Less than 500	5,274	847,958	759,628	88,330
Total of cities and villages	6,115	2,880,350	2,608,317	272,033
Water holes	2,090	421,980	--	421,980
Grand total:	8,205	3,302,330	2,608,317	694,013

Source: Ministry of Finance/Statistics Department (MINFIN/SD): Survey of Population, Buildings and Establishments.

APPENDIX VI

CATEGORIES OF INDUSTRIAL ESTABLISHMENTS IN SAUDI ARABIA, 1962/63

Category	Number of Establ ishments
Food Processing	1,759
Leather and Fibre Processing	2,403
Building Material Production	672
Metal Products	693
Furniture Manufacturing & Repair	377
Printing and Binding	35
Gas Bottling and Distribution	50
Paper Products	55
Barge Manufacturing	95
	6,119

Source: Census of Population, Buildings and Establishments, 1962/1963.

APPENDIX VII

SAUDI AND NON-SAUDI TEACHERS, IN VARIOUS LEVELS OF EDUCATION, IN 1969/1970

Schools	Saudis	Non-Saudis	Total
Kindergarten Schools	3 (F)	61 (F)	64
Primary Schools (6 years)	8,055 a)	9,126	17,181
Intermediate Schools (3 years after primary)	1,105 b)	2,360	3,465
Secondary Schools (3 years after intermediate)	70 c)	442	512
Teacher Training Schools (3 years after intermediate)	72 d)	417	489
Higher Education g)	159 e)	414	573 f)
Total:	9,464	12,820	

a) 1,148 Females
b) 5 Females
c) No female teachers
d) 5 Females
e) 7 Females
f) 102 non-Arabs

g) Colleges under the Ministry of Education,
Colleges under the General Administration of Religious Institutions,
Riyadh University, Riyadh
King Abdul Aziz National University, Jeddah
Islamic University, Medina
College of Petroleum and Mineral Resources, Dhahran

Source: Educational Statistics, Department of Statistics and Research, Ministry of Education, Riyadh, 1969/70.

APPENDIX VIII

The following table shows the number of students in the various higher educational institutions, from 1963/64 to 1969/70:-

Years	No. of Colleges	No. of Students		Total
		Male	Female	
1963/64.	10	2,481	48	2,529
64/65	11	2,917	80	2,997
65/66	12	3,256	119	3,375
66/67	14	3,820	115	3,953
67/68	16	4,658	194	4,848
68/69	16	5,125	294	5,419
69/70	18	6,508	434	6,942

Source: Department of Statistics and Research, Ministry of Education, Riyadh, Saudi Arabia, 1969/70.

APPENDIX I -- Table A

BOYS' ATTENDANCE AT SCHOOL AND ENTRANCE TO LABOUR FORCE 1957/1958 - 1964/1965 AND PROJECTED TO 1969/1970

1. School Enrolment a) (000)

ENROLMENT IN SCHOOL YEAR

	1957/58	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70
Entering 1st grade	23.78	26.13	29.50	39.22	44.41	39.77	42.31	46.00	49.00	52.00	55.00	58.00	61.00
Entering 2nd grade	15.02	15.60	17.18	19.89	26.02	33.63	32.60	34.60	39.00	42.00	45.00	48.00	51.00
Entering 3rd grade	11.12	11.65	13.13	14.59	17.12	25.46	32.33	31.00	33.00	37.00	40.00	43.00	46.00
Entering 4th grade	8.90	9.97	11.27	12.81	14.30	16.84	22.68	29.00	28.00	30.00	34.00	38.00	41.00
Entering 5th grade	5.92	6.98	8.72	10.06	11.80	13.13	15.38	20.60	27.00	26.00	28.00	31.00	35.00
Entering 6th grade	4.15	5.27	6.05	7.63	9.26	10.50	11.48	13.40	18.00	24.00	23.00	25.00	28.00
Enrolled 1-6	68.79	75.60	85.85	104.20	122.91	139.33	156.78	174.60	194.00	211.00	225.00	243.00	262.00
Entering 7th	2.65	2.98	4.23	5.57	6.52	8.71	9.62	10.30	12.10	16.20	21.60	20.70	22.70
Entering 8th	1.46	1.75	2.16	3.24	4.38	5.03	6.90	7.50	8.20	9.70	13.00	17.30	16.60
Entering 9th	.95	1.15	1.68	1.99	3.09	4.06	4.91	6.60	7.10	7.80	9.20	12.30	16.40
Enrolled 7-9	5.06	5.88	8.07	10.80	13.99	17.80	21.43	24.40	27.40	33.70	43.80	50.30	55.70
Entering 10th	.50	.49	.58	.94	.93	1.53	1.87	2.20	3.30	3.50	3.90	4.60	6.10
Entering 11th	.31	.29	.38	.48	.73	.73	.93	1.10	1.60	2.50	2.60	3.00	3.40
Entering 12th	.29	.27	.33	.50	.63	.88	.91	1.10	1.20	1.80	2.80	2.90	3.30
Enrolled 10-12	1.10	1.05	1.29	1.92	2.28	3.14	3.71	4.40	6.10	7.80	9.30	10.50	12.80
Total Enrolment	74.95	82.53	95.21	116.92	139.18	160.27	181.92	203.40	227.50	252.50	278.10	303.80	330.50

Source: a) Enrolment in Ministry of Education day-schools for boys by grade 1957/58-1963/64. Excludes boys attending private schools, night school enrolment and adult education enrolment, enrolment in 1-3 grades in vocational schools counted in grades 7-9, 4th and 5th grades of vocational schools counted in grades 10 and 11.

APPENDIX IX - Table A (cont'd)

2. School Survival Rate (percent)

Surviving in	Actual						Estimated	Projected			
	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69
Surviving from:	a. Year-to-year survival										
Grade 1 to grade 2	65	65	67	66	76	82	82	84	84	86	87
Grade 2 to grade 3	77	84	85	86	98	96	95	96	96	96	96
Grade 3 to grade 4	90	97	98	98	98	89	90	91	92	93	94
Grade 4 to grade 5	78	88	89	92	92	91	91	92	92	92	92
Grade 5 to grade 6	89	86	87	93	89	87	88	90	90	90	90
Grade 6 to grade 7	74	80	92	86	94	92	90	90	90	90	90
Grade 7 to grade 8	66	72	77	77	77	79	78	80	80	80	80
Grade 8 to grade 9	79	96	92	95	93	98	96	95	95	95	95
Grade 9 to grade 10	51	50	56	47	50	46	46	50	50	50	50
Grade 10 to grade 11	57	77	84	77	78	60	60	75	75	75	75
Grade 11 to grade 12	87	116	131	130	121	125	125	110	110	110	110
	b. Survival from First Grade										
Grade 1 to grade 2	65	65	67	66	76	82	82	84	85	86	87
Grade 1 to grade 3		55	56	58	65	73	81	78	80	82	83
Grade 1 to grade 4			54	55	57	58	78	70	71	74	78
Grade 1 to grade 5				50	50	52	65	61	65	66	67
Grade 1 to grade 6					44	44	53	46	54	58	59
Grade 1 to grade 7						40	45	41	41	50	53
Grade 1 to grade 8							40	30	36	33	41
Grade 1 to grade 9							32	30	30	31	31
Grade 1 to grade 10									15	15	15
Grade 1 to grade 11										11	11
Grade 1 to grade 12											12

b. Boys dropping out earlier apparently return to finish secondary school after an interval of working.

APPENDIX IX - Table A (cont'd)

3. Entrants to Labour Force with Some Schooling

	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70
Entering with:												
1st grade attendance	8.18	8.95	9.61	13.20	10.78	7.17	7.71	7.00	7.00	7.00	7.00	7.00
2nd grade attendance	3.37	2.47	2.59	2.77	.56	1.30	1.60	1.60	2.00	2.00	2.00	2.00
3rd grade attendance	1.15	.38	.32	.29	28	2.78	3.33	3.00	3.00	3.00	2.00	2.00
4th grade attendance	1.92	1.25	1.21	1.01	1.17	1.46	2.08	2.00	2.00	2.00	3.00	3.00
5th grade attendance	.64	.93	1.09	.80	1.30	1.65	1.98	2.60	3.00	3.00	3.00	3.00
Grade 1-5 attendance	15.27	13.98	14.82	18.07	14.09	14.36	16.70	16.20	17.00	17.00	17.00	17.00
6th grade attendance	1.17	1.04	.48	1.11	.55	.88	1.18	1.30	1.80	2.40	2.30	2.30
7th grade attendance	.90	.82	.99	1.19	1.49	1.81	2.12	2.10	2.40	3.20	4.30	4.10
8th grade attendance	.31	.07	.17	.15	.32	.12	.30	.40	.40	.50	.70	.90
Grade 6-8 attendance	2.38	1.93	1.64	2.45	2.36	2.81	3.60	3.80	4.60	6.10	7.30	7.30
9th grade attendance	.46	.57	.74	1.06	1.56	2.19	2.71	3.30	3.60	3.90	4.60	6.20
10th grade attendance	.21	.11	.10	.21	.20	.60	.70	.60	.80	.90	.90	1.20
11th grade attendance	.04	-.05	-.12	-.15	-.15	-.18	-.17	-.10	-.20	-.30	-.30	-.30
Grade 9-11 attendance	.71	.63	.72	1.12	1.61	2.61	3.24	3.80	4.20	4.50	5.20	7.10
12th grade attendance	.29	.28	.33	.50	.62	.83	.90	1.10	1.20	1.80	2.80	2.90
Total entrants to labour force:	18.65	16.82	17.51	22.14	18.68	20.66	24.44	24.90	27.00	29.40	32.30	34.30
Addendum: Passing Examination End of School Year (000)												
Primary Certificates	5.18	6.73	8.03	10.65	11.54	11.62						
Secondary Certificates	.29	.36	.54	.53	.65	.89						

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